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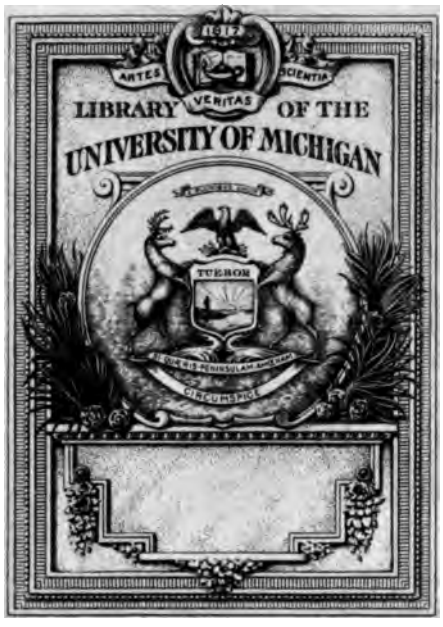

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1904

The Knickerbocker Press, New York

Flavius Morse
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33083

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CORRESPONDENCE

AND

MISCELLANEOUS WRITINGS

CORRESPONDENCE

AND

MISCELLANEOUS WRITINGS

MCCCXVIII

TO M. MELMOTH

PASSY [*no date, circa* 1784].

SIR:—I should have been flattered exceedingly by Mrs. Melmoth's showing the least inclination for one of those portraits, when Mrs. Izard accepted the other, and should have presented it to her with the greatest pleasure. She did not appear to desire it, and I did not presume it of value enough to be offered. Her quarrel with me on that account is pleasing. The reconciliation, when I can obtain it, will be more so. At present another lady has put it out of my power to comply with the terms. M. de Chaumont, at whose pottery in the country they were made, receiving a request from Petersburg for one of them, to gratify the curiosity of the Empress, and having none in town, he got from me the only one I had left, and has sent it away. But I am promised another soon, and shall seize the first

moment of making my peace with it. In the meantime, I hope you will intercede for me, in that heart where I am sure you have an interest. Accept my thanks for the books, from the reading of which I promise myself a good deal of pleasure. Please to accept also the trifle enclosed, and believe me with most sincere esteem, etc.,

B. FRANKLIN.

MCCCXIX

TO DAVID HARTLEY

PASSY, 3 January, 1785.

MY DEAR FRIEND:—I received your kind letter of December 1st from Bath. I am glad to hear that your good sister is in a fair way towards recovery. My respects and best wishes attend her.

I communicated your letter to Mr. Jefferson, to remind him of his promise to communicate to you the intelligence he might receive from America on the subjects you mention, and now, having got back, I shall endeavor to answer the other parts of it.

What you propose to draw up of your opinions on American negotiation may be of great use if laid, as you intend, before administration, in case they seriously intend to enter on it after the meeting of Parliament; for I know your ideas all tend to a good understanding between the two countries and their common advantage, and in my mind, too, all selfish projects of partial profit are the effects of short-

sightedness, they never producing permanent benefits, and are at length the causes of discord and its consequences, wherein much more is spent than all the temporary gains amounted to.

I do not know that any one is yet appointed by your court to treat with us. We some time since acquainted your minister with our powers and disposition to treat, which he communicated to his court, and received for answer that his Majesty's ministers were ready to receive any propositions we might have to make for the common benefit of both countries, but they thought it more for the honor of both that the treaty should not be in a third place. We answered that, though we did not see much inconvenience in treating here, we would, as soon as we had finished some affairs at present on our hands, wait upon them, if they pleased, in London. We have since heard nothing.

We have no late accounts from America of any importance. You know the Congress adjourned the beginning of June till the beginning of November. And since their meeting there has been no account of their proceedings. All the stories in your papers relating to their divisions are fiction, as well as those of the people being discontented with congressional government. Mr. Jay writes to me that they were at no time more happy or more satisfied with their government than at present, nor ever enjoyed more tranquillity or prosperity. In truth, the freedom of their ports to all nations has brought in a vast plenty of foreign goods, and occasioned a demand for their produce, the consequence of which is the double

advantage of buying what they consume cheap and selling what they can spare dear.

If we should come to London, I hope it may still be with you that we are to do business. Our already understanding one another may save, on many points, a good deal of time in discussion. But I doubt whether any treaty is intended on your part, and I fancy we shall not press it. It may perhaps be best to give both sides time to inquire, and to *feel* for the interests they cannot *see*. With sincere and great esteem, I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCXX

TO JOHN JAY

PASSY, 8 February, 1785.

DEAR SIR:—I received by the Marquis de Lafayette your kind letter of the 13th of December. It gave me pleasure on two accounts, as it informed me of the public welfare, and that of your, I may almost say *our*, dear little family; for, since I had the pleasure of their being with me in the same house, I have ever felt a tender affection for them, equal, I believe, to that of most fathers.

I did hope to have heard, by the last packet, of, your having accepted the secretaryship of foreign affairs, but was disappointed. I write to you now, therefore, only as a private friend; yet I may mention respecting public affairs that, as far as I can

perceive, the good disposition of this court towards us continues. I wish I could say as much for the rest of the European courts. I think that their desire of being connected with us by treaties is of late much abated, and this, I suppose, is occasioned by the pains Britain takes to represent us everywhere as distracted with divisions, discontented with our governments, the people unwilling to pay taxes, the Congress unable to collect them, and many desiring the restoration of the old government. The English papers are full of this stuff, and their ministers get it copied into the foreign papers. The moving about of the Congress from place to place has also a bad effect, in giving color to the reports of their being afraid of the people. I hope they will soon settle somewhere, and by the steadiness and wisdom of their measures dissipate all those mists of misrepresentation raised by the remaining malice of ancient enemies, and establish our reputation for national justice and prudence as they have done for courage and perseverance.

It grieves me that we have not been able to discharge our first year's payment of interest to this court, due the beginning of last month. I hope it will be the only failure, and that effectual measures will be taken to be exactly punctual hereafter. *The good master*, says the proverb, *is lord of another man's purse*. The bad one, if he ever has again occasion to borrow, must pay dearly for his carelessness and injustice.

You are happy in having got back safe to your country. I should be less unhappy if I could imagine

the delay of my *congé* useful to the States, or in the least degree necessary. But they have many equally capable of doing all I have to do here. The new proposed treaties are the most important things; but two can go through them as well as three, if indeed any are likely to be completed, which I begin to doubt, since the new ones make little progress, and the old ones, which wanted only the *fiat* of Congress, seem now to be going rather backward,—I mean those I had projected with Denmark and Portugal.

My grandsons are sensible of the honor of your remembrance, and present their respects to you and Mrs. Jay. I add my best wishes of health and happiness to you all, being, with sincere esteem and affection, dear sir, your most obedient humble servant,

B. FRANKLIN.

MCCCXXI

TO MR. FRANCIS CHILDS, PRINTER AT NEW YORK

PASSY, 8 February, 1785.

SIR:—I have received your letter of November 13th, with the preceding one therein mentioned. I had some discourse with Mr. Jay respecting you, and I expressed a willingness to assist you in setting up your business, on the same terms as I had formerly done with other young printers of good character, viz., Whitemarsh and Timothy in Carolina, Smith and afterwards Mecon at Antigua, Parker at New York, Franklin at Rhode Island, Holland Miller at Lancaster, and afterwards Dunlap, and Hall at

Philadelphia, but nothing was concluded between us, and I expected to have been in America before this time, with a very large quantity of types which I have packed up. I still hope to be there in the ensuing summer, when we may carry this proposal into execution, if it shall suit you. In the meantime, I would not have you miss any good opportunity of settling yourself, for I am old and infirm, and accidents may prevent us. The good character given of you by Mr. Jay is my inducement to serve you if I can, and it will give me pleasure if it succeeds. I am obliged to you for the care you took in securing my press; and am, your friend and servant,

B. FRANKLIN.

SIR:—If Mrs. Parker still lives at Woodbridge, perhaps she can show you the agreement between her husband and me, and you may consider the terms of it before my arrival.

MCCCXXII

TO THE PRESIDENT OF CONGRESS

PASSY, 8 February, 1785.

SIR:—I received by the Marquis de Lafayette the two letters you did me the honor of writing to me the 11th and 14th of December; the one enclosing a letter from Congress to the king, the other a resolve of Congress respecting the convention for establishing consuls. The letter was immediately delivered and well received. The resolve came too late to suspend

signing the convention, it having been done July last, and a copy sent so long since that we now expected the ratification. As that copy seems to have miscarried I now send another.

I am not informed what objection has arisen in Congress to the plan sent me. Mr. Jefferson thinks it may have been to the part which restrained the consuls from all concern in commerce. That article was omitted, being thought unnecessary to be stipulated, since either party would always have the power of imposing such restraints on its own officers, whenever it should think fit. I am, however, of opinion that this or any other reasonable article or alteration may be obtained at the desire of Congress, and established by a supplement.

Permit me, sir, to congratulate you on your being called to the high honor of presiding in our national councils, and to wish you every felicity, being with the most perfect esteem, etc.,

B. FRANKLIN.

MCCCXXIII

TO WILLIAM STRAHAN, ESQ.

PASSY, 5 March, 1785.

DEAR FRIEND:—I received your kind letter by my grandson. I thank you for the civilities you showed him when in London.

I hope to get home this ensuing summer. I shall have an old account to settle then with the family of our friend Hall. There is a particular article of some importance, about which we were not agreed, but

were to be determined by your opinion. It was the value of a copyright in an established newspaper, of each of which from eight to ten thousand were printed. My long absence from that country, and immense employment the little time I was there, have hitherto prevented the settlement of all the accounts that had been between us; though we never differed about them, and never should if that good honest man had continued in being. To prevent all dispute on the above points with his son, it is that I now request your decision, which I doubt not will be satisfactory to us both. With unchangeable esteem, I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

My respects to Mrs. Strahan.

MCCCXXIV

TO BENJAMIN VAUGHAN [1]

PASSY, 14 March, 1785.

MY DEAR FRIEND:—Among the thoughts you lately sent me was one entitled: *Thoughts on Execu-*

[1] This paper on the criminal laws and the practice of privateering, was written in the form of a letter to Vaughan. It first appeared anonymously in a small volume published by Sir Samuel Romilly, in 1786, being observations on a treatise by Dr. Madan, entitled: *Thoughts on Executive Justice.* It was printed as "a letter from a gentleman abroad to his friend in England." In introducing it to his readers Sir Samuel says:

"The simplicity of style and liberality of thought which distinguish it cannot fail of discovering its venerable author to such as are already acquainted with his valuable writings. To those who have not that good fortune, the Editor is not permitted to say more than that it is the production of one of the best and most eminent of the present age."

See also Letter to M. Veillard, April 10, 1787.—EDITOR.

tive Justice. In return for that I send you a French one on the same subject, *Observations concernant d'Exécution de l'Article II. de la Déclaration sur le Vol.* They are both addressed to the judges, but written, as you will see, in a very different spirit. The English author is for hanging *all* thieves. The Frenchman is for proportioning punishments to offences.

If we really believe, as we profess to believe, that the law of Moses was the law of God, the dictate of divine wisdom, infinitely superior to human, on what principles do we ordain death as the punishment of an offence which, according to that law, was only to be punished by a restitution of fourfold? To put a man to death for an offence which does not deserve death, is it not murder? And, as the French writer says, *Doit-on punir délit contre la société par un crime contre la nature?*

Superfluous property is the creature of society. Simple and mild laws were sufficient to guard the property that was merely necessary. The savage's bow, his hatchet, and his coat of skins were sufficiently secured, without law, by the fear of personal resentment and retaliation. When, by virtue of the first laws, part of the society accumulated wealth and grew powerful, they enacted others more severe, and would protect their property at the expense of humanity. This was abusing their power and commencing a tyranny. If a savage, before he entered into society, had been told: "Your neighbor by this means may become owner of a hundred deer; but if your brother, or your son, or yourself, having no

deer of your own, and, being hungry, should kill one, an infamous death must be the consequence," he would probably have preferred his liberty, and his common right of killing any deer, to all the advantages of society that might be proposed to him.

That it is better a hundred guilty persons should escape than one innocent person should suffer, is a maxim that has been long and generally approved; never, that I know of, controverted. Even the sanguinary author of the *Thoughts* agrees to it (p. 163), adding well, "that the very thought of *injured* innocence, and much more that of *suffering* innocence, must awaken all our tenderest and most compassionate feelings, and at the same time raise our highest indignation against the instruments of it. But," he adds, "there is no danger of *either*, from a strict adherence to the laws." Really! Is it then impossible to make an unjust law? and if the law itself be unjust, may it not be the very "instrument" which ought to "raise the author's and everybody's highest indignation"? I read, in the last newspaper from London, that a woman is capitally convicted at the Old Bailey, for privately stealing out of a shop some gauze, value fourteen shillings and threepence; is there any proportion between the injury done by a theft, value fourteen shillings and threepence, and the punishment of a human creature, by death, on a gibbet? Might not that woman, by her labor, have made the reparation ordained by God, in paying fourfold? Is not all punishment inflicted beyond the merit of the offence, so much punishment of

innocence? In this light, how vast is the annual quantity of not only *injured*, but *suffering* innocence, in almost all the civilized states of Europe!

But it seems to have been thought that this kind of innocence may be punished by way of *preventing* crimes. I have read, indeed, of a cruel Turk in Barbary, who, whenever he bought a new Christian slave, ordered him immediately to be hung up by the legs, and to receive a hundred blows of a cudgel on the soles of his feet, that the severe sense of the punishment, and fear of incurring it thereafter, might prevent the faults that should merit it. Our author, himself, would hardly approve entirely of this Turk's conduct in the government of slaves; and yet he appears to recommend something like it for the government of English subjects, when he applauds (p. 105) the reply of Judge Burnet to the convict horse-stealer, who, being asked what he had to say why judgment of death should not pass against him, and answering, that it was hard to hang a man for *only* stealing a horse, was told by the judge: "Man, thou are not to be hanged *only* for stealing a horse, but that horses may not be stolen."

The man's answer, if candidly examined, will, I imagine, appear reasonable, as being founded on the eternal principle of justice and equity, that punishments should be proportioned to offences; and the judge's reply brutal and unreasonable, though the writer "wishes all judges to carry it with them whenever they go the circuit, and to bear it in their minds as containing a wise reason for all the penal statutes which they are called upon to put in execu-

tion. It at once illustrates," says he, "the true grounds and reasons of all capital punishments whatsoever, namely, that every man's property, as well as his life, may be held sacred and inviolate." Is there then no difference in value between property and life? If I think it right that the crime of murder should be punished with death, not only as an equal punishment of the crime, but to prevent other murders, does it follow that I must approve of inflicting the same punishment for a little invasion on my property by theft? If I am not myself so barbarous, so bloody-minded and revengeful, as to kill a fellow-creature for stealing from me fourteen shillings and threepence, how can I approve of a law that does it? Montesquieu, who was himself a judge, endeavors to impress other maxims. He must have known what humane judges feel on such occasions, and what the effects of those feelings; and, so far from thinking that severe and excessive punishments prevent crimes, he asserts, as quoted by our French writer, page 4, that—

"*L'atrocité des loix en empêche l'exécution.*

"*Lorsque la peine est sans mesure, on est souvent obligé de lui préférer l'impunité.*

"*La cause de tous les relâchemens vient de l'impunité des crimes, et non de la modération des peines.*" [1]

It is said by those who know Europe generally, that there are more thefts committed and punished

[1] "The atrocity of laws prevents their being executed.

"When the punishment is excessive, it is often found necessary to prefer impunity.

"The cause of all the violations of the laws comes from the impunity of crimes, and not from the moderation of the penalties."—EDITOR.

annually in England than in all the other nations put together. If this be so, there must be a cause or causes for such depravity in your common people. May not one be the deficiency of justice and morality in your national government, manifested in your oppressive conduct to your subjects, and unjust wars on your neighbors? View the long-persisted in, unjust monopolizing treatment of Ireland at length acknowledged. View the plundering government exercised by your merchants in the Indies; the confiscating war made upon the American colonies; and, to say nothing of those upon France and Spain, view the late war upon Holland, which was seen by impartial Europe in no other light than that of a war of rapine and pillage, the hopes of an immense and easy prey being its only apparent, and probably its true and real, motive and encouragement.

Justice is as strictly due between neighbor nations as between neighbor citizens. A highwayman is as much a robber when he plunders in a gang as when single; and a nation that makes an unjust war is only a *great gang*. After employing your people in robbing the Dutch, is it strange that, being put out of that employ by the peace, they should continue robbing, and rob one another? *Piraterie*, as the French call it, or privateering, is the universal bent of the English nation, at home or abroad, wherever settled. No less than seven hundred privateers were, it is said, commissioned in the last war! These were fitted out by merchants, to prey upon other merchants, who had never done them any injury. Is there probably any one of those privateering

merchants of London, who were so ready to rob the merchants of Amsterdam, that would not as readily plunder another London merchant of the next street, if he could do it with the same impunity? The avidity, the *alieni appetens*, is the same; it is the fear alone of the gallows that makes the difference. How then can a nation which, among the honestest of its people, has so many thieves by inclination, and whose government encouraged and commissioned no less than seven hundred gangs of robbers,—how can such a nation have the face to condemn the crime in individuals, and hang up twenty of them in a morning? It naturally puts one in mind of a Newgate anecdote. One of the prisoners complained that in the night somebody had taken his buckles out of his shoes. "What, the devil!" says another, "have we then *thieves* among us? It must not be suffered; let us search out the rogue, and pump him to death."

There is, however, one late instance of an English merchant who will not profit by such ill-gotten gains. He was, it seems, part-owner of a ship, which the other owners thought fit to employ as a letter of marque, and which took a number of French prizes. The booty being shared, he has now an agent here inquiring, by an advertisement in the gazette, for those who suffered the loss, in order to make them, as far as in him lies, restitution. This conscientious man is a Quaker. The Scotch Presbyterians were formerly as tender; for there is still extant an ordinance of the town council of Edinburgh, made soon after the Reformation, "forbidding the purchase of prize goods, under pain of losing the freedom of the

burgh forever, with other punishment at the will of the magistrate; the practice of making prizes being contrary to good conscience and the rule of treating Christian brethren as we would wish to be treated; and such goods *are not to be sold by any godly men within this burgh.*" The race of these godly men in Scotland is probably extinct or their principles abandoned; since, as far as that nation had a hand in promoting the war against the colonies, prizes and confiscations are believed to have been a considerable motive.

It has been for some time a generally received opinion, that a military man is not to inquire whether a war be just or unjust; he is to execute his orders. All princes who are disposed to become tyrants must probably approve of this opinion, and be willing to establish it; but is it not a dangerous one, since, on that principle, if the tyrant commands his army to attack and destroy, not only an unoffending neighbor nation, but even his own subjects, the army is bound to obey? A negro slave, in our colonies, being commanded by his master to rob or murder a neighbor, or do any other immoral act, may refuse, and the magistrate will protect him in his refusal. The slavery then of a soldier is worse than that of a negro! A conscientious officer, if not restrained by the apprehension of its being imputed to another cause, may indeed resign rather than be employed in an unjust war; but the private men are slaves for life, and they are perhaps incapable of judging for themselves. We can only lament their fate, and still more that of a sailor, who is often dragged by force

from his honest occupation, and compelled to imbrue his hands in, perhaps, innocent blood.

But methinks it well behooves merchants (men more enlightened by their education, and perfectly free from any such force or obligation) to consider well of the justice of a war before they voluntarily engage a gang of ruffians to attack their fellow merchants of a neighboring nation, to plunder them of their property, and perhaps ruin them and their families if they yield it, or to wound, maim, and murder them if they endeavor to defend it. Yet these things are done by Christian merchants, whether a war be just or unjust, and it can hardly be just on both sides. They are done by English and American merchants, who, nevertheless, complain of private theft, and hang by dozens the thieves they have taught by their own example.

It is high time, for the sake of humanity, that a stop were put to this enormity. The United States of America, though better situated than any European nation to make profit by privateering (most of the trade of Europe, with the West Indies, passing before their doors), are, as far as in them lies, endeavoring to abolish the practice, by offering in all their treaties with other powers an article, engaging solemnly that in case of future war no privateer shall be commissioned on either side, and that unarmed merchant-ships on both sides shall pursue their voyages unmolested.[1] This will be a happy improve-

[1] This offer having been accepted by the late king of Prussia, a treaty of amity and commerce was concluded between that monarch and the United States, containing the following humane, philanthropic

ment of the laws of nations. The humane and the just cannot but wish general success to the proposition. With unchangeable esteem and affection, I am, my dear friend, ever yours,

B. FRANKLIN.

MCCCXXV

TO RICHARD PRICE

PASSY, 18 March, 1785.

DEAR FRIEND:—My nephew, Mr. Williams, will have the honor of delivering you this line. It is to request from you a list of a few books, to the value

article, in the formation of which Dr. Franklin, as one of the American plenipotentiaries, was principally concerned, viz.:

ARTICLE XXIII.

"If war should arise between the two contracting parties, the merchants of either country then residing in the other shall be allowed to remain nine months to collect their debts and settle their affairs, and may depart freely, carrying off all their effects without molestation or hindrance; and all women and children, scholars of every faculty, cultivators of the earth, artisans, manufacturers, and fishermen, unarmed and inhabiting unfortified towns, villages, or places, and in general all others whose occupations are for the common subsistence and benefit of mankind, shall be allowed to continue their respective employments, and shall not be molested in their persons, nor shall their houses and goods be burnt or otherwise destroyed, nor their fields wasted by the armed force of the enemy in whose power by the events of war they may happen to fall; but if any thing is necessary to be taken from them for the use of such armed force, the same shall be paid for at a reasonable price. And all merchants and trading vessels employed in exchanging the products of different places, and thereby rendering the necessaries, conveniences, and comforts of human life more easy to be obtained, and more general, shall be allowed to pass free and unmolested; and neither of the contracting powers shall grant or issue any commission to any private armed vessels, empowering them to take or destroy such trading vessels, or interrupt such commerce."—W. T. F.

of about twenty-five pounds, such as are most proper to inculcate principles of sound religion and just government. A new town in the State of Massachusetts having done me the honor of naming itself after me, and proposing to build a steeple to their meeting-house if I would give them a bell, I have advised the sparing themselves the expense of a steeple for the present, and that they would accept of books instead of a bell, sense being preferable to sound. These are therefore intended as the commencement of a little parochial library for the use of a society of intelligent, respectable farmers, such as our country people generally consist of. Besides your own works, I would only mention, on the recommendation of my sister, Stennett's *Discourses on Personal Religion*, which may be one book of the number, if you know and approve it.[1]

With the highest esteem and respect, I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

[1] Dr. Price complied with this request, as may be seen in his letter under the date of June 3, 1785. The books were procured and forwarded to the town of Franklin. The Reverend Nathaniel Emmons, clergyman of the parish for which the library was designed, preached a sermon in commemoration of this bounty, entitled: "The Dignity of Man: a Discourse Addressed to the Congregation in Franklin upon the Occasion of their Receiving from Dr. Franklin the Mark of his Respect in a Rich Donation of Books, Appropriated to the Use of a Parish Library." It was printed in the year 1787, and the following dedication was prefixed to it: "To his Excellency, Benjamin Franklin, President of the State of Pennsylvania, the Ornament of Genius, the Patron of Science, and the Boast of Man, this Discourse is Inscribed, with the Greatest Deference, Humility, and Gratitude, by his Obliged and most Humble Servant, the Author."

MCCCXXVI

TO WILLIAM CARMICHAEL

PASSY, 22 March, 1785.

DEAR SIR:—I received duly your letter of the 27th past, which gave me great pleasure, as the length of time since I had heard from you made me apprehensive that you might be ill. I immediately communicated the papers enclosed with it to my colleagues, Messrs. Adams and Jefferson, and we have had several meetings on the Barbary affair. Probably by next week's post we may write fully upon it to you, and to Morocco.

I am glad you are likely to succeed in obtaining the liberty of our silly countryman. The discipline they have granted him is, however, not misapplied. Mr. Grand, being now in cash, your bills on him for your salary will be fully honored. I mention your drawing on him, because probably I may not be here, as I expect daily the permission of Congress to return home, and shall embrace the first opportunity. Wherever I am, be assured of the invariable esteem and attachment of, dear sir, your affectionate friend,

B. FRANKLIN.

MCCCXXVII

TO THE PRESIDENT OF CONGRESS

PASSY, 12 April, 1785.

SIR:—M. de Chaumont, who will have the honor of presenting this line to your Excellency, is a young

gentleman of excellent character, whose father was one of our most early friends in this country, which he manifested by crediting us with a thousand barrels of gunpowder and other military stores in 1776, before we had provided any apparent means of payment. He has, as I understand, some demands to make on Congress, the nature of which I am unacquainted with; but my regard for the family makes me wish that they may obtain a speedy consideration and such favorable issue as they may appear to merit.

To this end, I beg leave to recommend him to your countenance and protection, and am, with great respect, etc.,

B. FRANKLIN.

MCCCXXVIII

TO JONATHAN WILLIAMS, ESQ.

PASSY, 13 April, 1785.

DEAR COUSIN:—I received your letter of December 16th, relating to Jonas Hartwell. I had before written to our minister at Madrid, Mr. Carmichael, requesting him to apply for the release of that man. Enclosed I send his answer, with copies of other papers relating to the affair. The simpleton will be discharged, perhaps, after being a little whipped for his folly, and that may not be amiss. We have here another New England man, Thayer, formerly a candidate for the ministry, who converted himself lately at Rome, and is now preparing to return home for the purpose of converting his countrymen. Our ancestors from Catholic became first Church-of-England men, and then refined into Presbyterians. To

change now from Presbyterianism to Popery seems to me refining backwards, from white sugar to brown.

I have written to Dr. Price, of London, requesting him to make a choice of proper books to commence a library for the use of the inhabitants of Franklin. The parcel will be sent directly from thence.

Jonathan and his family are well. He expects to be with you soon. I continue very hearty and well, except my malady of the stone, which, however, is hitherto very tolerable. My love to cousin Grace, etc., and believe me ever your affectionate uncle,

B. FRANKLIN.

P. S. April 14th.—I send enclosed a bill drawn by W. Vernon, junior, on his father, for 840 livres, which I request you would receive and deliver to my sister Mecom.

MCCCXXIX

TO JOHN INGENHOUSZ

PASSY, 20 April, 1785.

DEAR SIR:—I thank you much for the postscript respecting my disorder, the stone. I have taken heretofore, and am now again taking the remedy you mention, which is called Blackrie's Solvent. It is the soap lye, with lime-water, and I believe it may have some effect in diminishing the symptoms and preventing the growth of the stone, which is all I expect from it. It does not hurt my appetite. I sleep well and enjoy my friends in cheerful conversation, as usual; but as I cannot use much exercise, I eat more sparingly than formerly, and I drink no wine.

I admire that you should be so timid in asking leave of your good imperial master to make a journey for visiting a friend. I am persuaded you would succeed, and I hope the proposition I have repeated to you in this letter will assist your courage and enable you to ask and obtain. If you come hither soon, you may, when present, get your book finished and be ready to proceed with me to America. While writing this I have received from Congress my leave to return; and I believe I shall be ready to embark by the middle of July, at farthest. I shall now be free from politics for the rest of my life. Welcome again my dear philosophical amusements!

I see by a full page of your letter that you have been possessed with strange ideas of America; that there is no justice to be obtained there, no recovery of debts, projects of insurrection to overturn the present goverment, etc., etc.; that a Virginia colonel, nephew of the governor, had cheated a stranger of a hundred thousand livres, and that somebody was imprisoned for only speaking of it; and the like very improbable stories. They are all fictions or misrepresentations. If they were truths, all strangers would avoid such a country, and foreign merchants would as soon carry their goods to sell in Newgate as America. Think a little on the sums England has spent to preserve a monopoly of the trade of that people, with whom they had long been acquainted; and of the desire all Europe is now manifesting to obtain a share of that trade. Our ports are full of their ships, their merchants buying and selling in our streets continually, and returning

with our products. Would this happen, could such commerce be continued with us, if we were such a collection of scoundrels and villains as we have been represented to you? And insurrections against our rulers are not only unlikely, as the rulers are the choice of the people, but unnecessary; as, if not liked, they may be changed continually by the new elections.

I own you have cause, great cause, to complain of ——, but you are wrong to condemn the whole country by a single example. I have seen many countries, and I do not know a country in the world in which justice is so well administered, where protection and favor have so little power to impede its operations, and where debts are recovered with so much facility. If I thought it such a country as has been painted to you, I should certainly never return to it. The truth, I believe, is, that more goods have been carried thither from all parts of Europe than the consumption of the country requires, and it is natural that some of the adventurers are willing to discourage others from following them, lest the prices should still be kept down by the arrival of fresh cargoes; and it is not unlikely that some negligent or unfaithful factors sent thither may have given such accounts to excuse their not making remittances; and the English magnify all this, and spread it abroad in their papers, to dissuade foreigners from attempting to interfere with them in their commerce with us.

Your account of the Emperor's condescending conversation with you concerning me is pleasing. I respect very much the character of that monarch, and

think that if I were one of his subjects he would find me a good one. I am glad that his difference with your country is likely to be accommodated without bloodshed. The *Courier de l'Europe* and some other papers printed a letter on that difference, which they ascribed to me. Be assured, my friend, that I never wrote it, nor was ever presumptuous enough to meddle with an affair so much out of my way.

Yours, etc.,

B. FRANKLIN.

MCCCXXX

TO BENJAMIN VAUGHAN, ESQ.

PASSY, 21 April, 1785.

DEAR FRIEND:—I received your kind letter of the 23d past by Mr. Perry, with the other bottle of Blackrie. I thank you much for your care in sending them. I should have been glad to be of any use to Mr. Perry, but he had placed his children before I saw him, and he stayed with me only a few minutes.

We see much in parliamentary proceedings, and in papers and pamphlets, of the injury the concessions to Ireland will do to the *manufacturers* of England, while the *people* of England seem to be forgotten, as if quite out of the question. If the Irish can manufacture cottons, and stuffs, and silks, and linens, and cutlery, and toys, and books, etc., etc., etc., so as to sell them cheaper in England than the *manufacturers* of England sell them, is not this good for the *people* of England who are not manufacturers? And will not even the manufacturers themselves share the

benefit? since if cottons are cheaper, all the other manufacturers who wear cottons will save in that article; and so of the rest. If books can be had much cheaper from Ireland (which I believe, for I bought Blackstone there for twenty-four shillings, when it was sold in England at four guineas) is not this an advantage, not to English booksellers, indeed, but to English readers, and to learning? and of all the complainants perhaps these booksellers are least worthy of consideration. The catalogue you last sent me amazes me by the high prices (said to be the lowest) affixed to each article. And one can scarce see a new book without observing the excessive artifices made use of to puff up a paper of verses into a pamphlet, a pamphlet into an octavo, and an octavo into a quarto, with scab-boardings, whitelines, sparse titles of chapters, and exorbitant margins, to such a degree that the selling of paper seems now the object, and printing on it only the pretence. I enclose the copy of a page in a late comedy. Between every two lines there is a white space equal to another line. You have a law, I think, against butchers blowing of veal to make it look fatter? why not one against booksellers blowing of books to make them look bigger? All this *to yourself;* you can easily guess the reason.

My grandson is a little indisposed, but sends you two pamphlets, *Figaro* and *Le Roy Voyageur*. The first is a play of Beaumarchais, which has had a great run here; the other a representation of all the supposed errors of government in this country, some of which are probably exaggerated. It is not publicly sold; we shall send some more shortly.

Please to remember me very respectfully and affectionately to good Dr. Price. I am glad that he has printed a translation of the Testament; it may do good. I am ever, my dear friend, yours most sincerely, B. FRANKLIN.

[Enclosed in the foregoing Letter.]

SCENE IV

Sir JOHN and WILDMORE

Sir JOHN

Whither so fast?

WILDMORE.

To the Opera.

Sir JOHN.

It is not the ———?

WILDMORE.

Yes it is.

Sir JOHN.

Never on a Sunday.

WILDMORE.

Is this Sunday?

Sir JOHN.

Yes, sure.

WILDMORE.

I remember nothing; I shall soon forget my Christian name.

If this page was printed running on like Erasmus' *Colloquies*, it would not have made more than five lines.

MCCCXXXI

TO M. CADET DE VAUX

PASSY, 28 April, 1785.

SIR:—I return your paper relating to maïs, which I have perused with pleasure. I am glad to learn that good beer may be made of it, which is new to me. I send herewith some observations on the use of that grain, of which you are at liberty to make such use as you may think proper. Your Patisseur has done wonders; I am delighted with his productions, and shall wish to take a quantity of them with me to eat at sea.

With great esteem, etc.,

B. FRANKLIN.

MCCCXXXII

TO JOHN INGENHOUSZ

PASSY, 29 April, 1785.

MY DEAR FRIEND:— . . . Lady Dowager Penn was here about the time of the treaty, and made application to me with great complaints, but I found she was not well informed of the state of her affairs, and could not clearly show that she had suffered any injury from the public of Pennsylvania, whatever she might from the agents of the family. Her husband's lands, I understand, were not confiscated as represented; but the proprietary government falling with that of the crown, the Assembly took the opportunity of insisting upon justice in some points,

which they could never obtain under that government. A kind of compromise then was made between the Assembly and the family, whereby all the vacant lots and unappropriated wilderness lands were to be henceforth in the disposition of the Assembly, who were to pay £130,000 sterling to the family within three years after the peace, all other demands on both sides being thus abolished. I am told that this arrangement was satisfactory to most of them. But as the lady intended to send her son over to solicit her interests, I gave him a letter of recommendation to the governor, proposing it for consideration whether it might not be advisable to reconsider the matter, and if the sum of £130,000 should be found insufficient, to make a proper addition. I have not heard what has since been done in the affair, or whether any thing. In my own judgment, when I consider that for nearly eighty years, viz., from the year 1700, William Penn and his sons received the quit-rents which were originally granted for the support of government, and yet refused to support the government, obliging the people to make a fresh provision for its support all that time, which cost them vast sums, as the most necessary laws were not to be obtained but at the price of making such provision; when I consider the meanness and cruel avarice of the late proprietor in refusing, for several years of war, to consent to any defence of the frontiers ravaged all the while by the enemy, unless his estate should be exempted from paying any part of the expense, not to mention other atrocities too long for this letter, I cannot but think the family well off,

and that it will be prudent in them to take the money and be quiet. William Penn, the first proprietor, father of Thomas, the husband of the present dowager, was a wise and good man, and as honest to the people as the extreme distress of his circumstances would permit him to be, but the said Thomas was a miserable churl, always intent upon griping and saving; and whatever good the father may have done for the province was amply undone by the mischief received from the son, who never did any thing that had the appearance of generosity or public spirit but what was extorted from him by solicitation and the shame of backwardness in benefits evidently incumbent on him to promote, and which was done at last in the most ungracious manner possible. The lady's complaints of not duly receiving her revenues from America are habitual; they were the same during all the time of my long residence in London, being then made by her husband as excuses for the meanness of his housekeeping and his deficiency in hospitality, though I knew at the same time that he was then in full receipt of vast sums annually by the sale of lands, interest of money, and quit-rents. But probably he might conceal this from his lady to induce greater economy, as it is known that he ordered no more of his income home than was absolutely necessary for his subsistence, but placed it at interest in Pennsylvania and the Jerseys, where he could have six or seven per cent., while money bore no more than five per cent, in England. I used often to hear of these complaints and laugh at them, perceiving clearly their motive. They served him on

other as well as on domestic occasions. You remember our rector of St. Martin's Parish, Dr. Saunders. He once went about, during a long and severe frost, soliciting charitable contributions to purchase coals for poor families. He came, among others, to me, and I gave him something. It was but little, very little, and yet it occasioned him to remark: "You are more bountiful on this occasion than your wealthy proprietary, Mr. Penn, but he tells me he is distressed by not receiving his incomes from America." The incomes of the family there must still be very great, for they have a number of manors consisting of the best lands, which are preserved to them, and vast sums at interest well secured by mortgages; so that if the dowager does not receive her proportion, there must be some fault in her agents. You will perceive by the length of this article that I have been a little *échauffé* by her making the complaints you mention to the Princess Dowager of Lichtenstein at Vienna. The lady herself is good and amiable, and I should be glad to serve her in any thing just and reasonable; but I do not at present see that I can do more than I have done. . . .

B. FRANKLIN.

MCCCXXXIII

TO JOHN INGENHOUSZ

PASSY, 29 April, 1785.

MY DEAR FRIEND:— . . . I confess that a man who can leave so many letters so long unanswered does not deserve so valuable a correspondence

as yours. But I am grown very old, being now in my eightieth year; I am engaged in much business that must not be neglected. Writing becomes more and more irksome to me; I grow more indolent; philosophic discussions, not being urgent like business, are postponed from time to time till they are forgotten. Besides, I have been these twenty months past afflicted with the stone, which is always giving me more or less uneasiness, unless when I am laid in bed; and, when I would write, it interrupts my train of thinking, so that I lay down my pen and seek some light amusement.

I consent to your request concerning my paper on the weathercock struck by lightning. Dispose of it as you please.

You will find an account of the first great stroke I received, in pages 160, 161, of my book, fifth edition, 1774.[1] The second I will now give you. I had a paralytic patient in my chamber, whose friends brought him to receive some electric shocks. I made them join hands so as to receive the shock at the same time, and I charged two large jars to give it. By the number of those people, I was obliged to quit my usual standing, and placed myself inadvertently under an iron hook which hung from the ceiling down to within two inches of my head, and communicated by a wire with the outside of the jars. I attempted to discharge them, and in fact did so; but I did not perceive it, though the charge went through

[1] The passage here alluded to is a part of Mr. Watson's *Account of Franklin's Experiments and Observations on Electricity.*

The incident mentioned is the same as that described in a letter to a gentleman in Boston, dated December 25, 1750.

me, and not through the persons I intended it for. I neither saw the flash, heard the report, nor felt the stroke. When my senses returned, I found myself on the floor. I got up, not knowing how that had happened. I then again attempted to discharge the jars; but one of the company told me they were already discharged, which I could not at first believe, but on trial found it true. They told me they had not felt it, but they saw I was knocked down by it, which had greatly surprised them. On recollecting myself, and examining my situation, I found the case clear. A small swelling rose on the top of my head, which continued sore for some days; but I do not remember any other effect, good or bad.

The stroke you received, and its consequences, are much more curious. I communicated that part of your letter to an operator, encouraged by government here to electrify epileptic and other poor patients. and advised his trying the practice on mad people, according to your opinion. I have not heard whether he has done it.

B. FRANKLIN.

MCCCXXXIV

TO COUNT DE VERGENNES

PASSY, 3 May, 1785.

SIR:—I have the honor to acquaint your Excellency that I have at length obtained, and yesterday received, the permission of Congress to return to America. As my malady makes it impracticable for me to pay my devoirs at Versailles personally, may I beg the favor of you, sir, to express respectfully for

me to his Majesty the deep sense I have of all the inestimable benefits his goodness has conferred on my country; a sentiment that it will be the business of the little remainder of life now left me to impress equally on the minds of all my countrymen. My sincere prayers are, that God may shower down his blessings on the king, the queen, their children, and all the royal family to the latest generations!

Permit me at the same time to offer you my thankful acknowledgments for the protection and countenance you afforded me at my arrival, and your many favors during my residence here, of which I shall always retain the same grateful remembrance. My grandson would have had the honor of waiting on you with this letter, but he has been some time ill of a fever.

With the greatest esteem and respect, and best wishes for the constant prosperity of yourself and all your amiable family, I am, sir, your Excellency's most obedient and most humble servant,

B. FRANKLIN.

MCCCXXXV

TO MRS. MARY HEWSON

PASSY, 5 May, 1785.

MY DEAR, DEAR FRIEND:—I received your little letter from Dover, which gave me great pleasure, as it informed me of your happy progress so far in your way home. I hope the rest of your journey was as prosperous.[1]

[1] Mrs. Hewson and her children had spent the winter with Dr. Franklin at Passy.

You talk of obligations to me, when in fact I am the person obliged. I passed a long winter, which appeared the shortest of any I ever passed. Such is the effect of pleasing society, with friends one loves.

I have now received my permission to return, and am making my preparations. I hope to get away in June. I promise myself, or rather flatter myself, that I shall be happy when at home. But, however happy that circumstance may make me, your joining me there will surely make me happier, provided your change of country may be for the advantage of your dear little family. When you have made up your mind on the subject, let me know by a line, that I may prepare a house for you as near me, and otherwise as convenient for you, as possible.

My neighbors begin to come out from Paris, and replace themselves in their Passy houses. They inquire after you, and are sorry you are gone before they could make themselves known to you. M. le Veillard, in particular, has told me at different times what indeed I knew long since, *C'est une bien digne femme, cette Madame Hewson, une très aimable femme.* I would not tell you this if I thought it would make you vain; but that is impossible; you have too much good sense.

So wish me a good voyage, and, when you pray at church for all that travel by land or sea, think of your affectionate friend,

B. FRANKLIN.

P. S.—My love to William, and Thomas, and Eliza, and tell them I miss their cheerful prattle. Temple

being sick, and Benjamin at Paris, I have found it very *triste* breakfasting alone, and sitting alone, and without any tea in the evening.

MCCCXXXVI

FROM M. DE RAYNEVAL

VERSAILLES, 8 May, 1785.

SIR:—I have learned with the greatest concern that you are soon to leave us. You will carry with you the affections of all France, for nobody has been more esteemed than you. I shall call on you at Passy, to desire you to retain for me a share in your remembrance, and renew to you personally the assurances of the most perfect attachment with which I have the honor to be, sir, etc.,

DE RAYNEVAL.

MCCCXXXVII

TO MR. AND MRS. BACHE

PASSY, 10 May, 1785.

DEAR SON AND DAUGHTER:—Having at length received from Congress permission to return home, I am now preparing for my departure, and hope to get away by the middle of next month, or the end at farthest, though I know not yet whether it will be by the packet or some other vessel. Fearing that the packet may be crowded with passengers, I have desired my

cousin, Jonathan Williams, now in London, to enquire whether there may not be found some good vessel bound directly to Philadelphia, who would agree to take me on board at Havre, with my grandsons and servants, with my baggage, etc. Infirm as I am, I have need of comfortable room and accommodation. I was miserably lodged in coming over hither, which almost demolished me. I must be better stowed now, or I shall not be able to hold out the voyage. Indeed my friends here are so apprehensive for me, that they press me much to remain in France, and three of them have offered me an asylum in their habitations. They tell me that I am here among a people who universally esteem and love me; that my friends at home are diminished by death in my absence; that I may there meet with envy and its consequent enmity which here I am perfectly free from; this supposing I live to complete the voyage, but of that they doubt. The desire, however, of spending the little remainder of life with my family is so strong as to determine me to try at least whether I can bear the motion of the ship. If not, I must get them to set me on shore somewhere in the Channel, and content myself to die in Europe.

It is long since I have heard from you or of you. I hope, however, that you and the children continue well. Ben is very well, and grows amazingly. He promises to be a stout as well as a good man. Temple has been ill lately with a fever, but is getting better and sends his duty. I suppose Ben writes. I am ever, my dear children, your affectionate father,

B. FRANKLIN.

MCCCXXXVIII

TO JOHN JAY [1]

PASSY, 10 May, 1785.

SIR:—I received your kind letter of the 8th of March, enclosing the resolution of Congress permitting my return to America, for which I am thankful, and am now preparing to depart the first good opportunity. Next to the pleasure of rejoining my own family will be that of seeing you and yours well and happy, and embracing once more my little friend, whose singular attachment to me I shall always remember.

I shall be glad to render any acceptable service to Mr. Randall. I conveyed the bayberry wax to Abbé de Chalut, with your compliments, as you desired. He returns his with many thanks. Be pleased to make my respectful compliments acceptable to Mrs. Jay, and believe me ever, with sincere and great respect and esteem, etc.,

B. FRANKLIN.

MCCCXXXIX

TO CHARLES THOMSON

PASSY, 10 May, 1785.

DEAR SIR:—An old gentleman in Switzerland, long of the magistracy there, having written a book entitled *Du Gouvernement et des Mœurs*, which is thought to contain many matters that may be useful

[1] Mr. Jay had already succeeded Mr. Livingston as Minister of Foreign Affairs.—EDITOR.

in America, desired to know of me how he could convey a number of printed copies, to be distributed gratis among the members of Congress. I advised his addressing the package to you by way of Amsterdam, whence a friend of mine would forward it. It is accordingly shipped there on board the *Van Berckel* Captain W. Campbell. There are good things in the work, but its chapter on the liberty of the press appears to me to contain more rhetoric than reason. With great esteem, I am ever, etc.,

B. FRANKLIN.

MCCCXL

TO JONATHAN WILLIAMS

PASSY, 19 May, 1785.

—— The conversations you mention respecting America are suitable. Those people speak what they wish; but she was certainly never in a more happy situation. They are angry with us, and speak all manner of evil of us; but we flourish notwithstanding. They put me in mind of a violent High Church factor, resident in Boston, when I was a boy. He had bought upon speculation a Connecticut cargo of onions, which he flattered himself he might sell again to great profit, but the price fell, and they lay upon hand. He was heartily vexed with his bargain, especially when he observed they began to *grow* in the store he had filled with them. He showed them one day to a friend. "Here they are," said he, "and they are *growing* too! I damn them every

day; but I think they are like the Presbyterians; the more I curse them, the more they grow." Yours,

B. FRANKLIN.

MCCCXLI

TO GEORGE WHATELY

PASSY, 19 May, 1785.

DEAR OLD FRIEND:—I received the very good letter you sent me by my grandson, together with your resemblance, which is placed in my chamber, and gives me great pleasure. There is no trade, they say, without returns, and therefore I am punctual in making those you have ordered.

I intended this should have been a long epistle, but I am interrupted, and can only add that I am ever yours most affectionately,

B. FRANKLIN.

MCCCXLII

FROM COUNT DE VERGENNES

VERSAILLES, 22 May, 1785.

SIR:—I have learned with much concern of your retiring, and of your approaching departure for America. You cannot doubt but that the regrets which you will leave will be proportionate to the consideration you so justly enjoy.

I can assure you, sir, that the esteem the king entertains for you does not leave you any thing to wish, and that his Majesty will learn with real satisfaction

that your fellow-citizens have rewarded, in a manner worthy of you, the important services that you have rendered them.

I beg, sir, that you will preserve for me a share in your remembrance, and never doubt the sincerity of the interest I take in your happiness. It is founded on the sentiments of attachment, of which I have assured you, and with which I have the honor to be, etc.,

DE VERGENNES.

MCCCXLIII

TO GEORGE WHATELY

PASSY, 23 May, 1785.

DEAR OLD FRIEND:—I sent you a few lines the other day, with my medallion, when I should have written more, but was prevented by the coming in of a *bavard*, who worried me till evening. I bore with him, and now you are to bear with me; for I shall probably *bavarder* in answering your letter.

I am not acquainted with the saying of Alphonsus, which you allude to as a sanctification of your rigidity in refusing to allow me the plea of old age as an excuse for my want of exactness in correspondence. What was that saying? You do not, it seems, feel any occasion for such an excuse, though you are, as you say, rising seventy-five. But I am rising (perhaps more properly falling) eighty, and I leave the excuse with you till you arrive at that age; perhaps you may then be more sensible of its validity, and see fit to use it for yourself.

I must agree with you, that the gout is bad, and that the stone is worse. I am happy in not having them both together, and I join in your prayer, that you may live till you die without either. But I doubt the author of the epitaph you send me was a little mistaken when he, speaking of the world, says that

"he ne'er cared a pin
What they said or may say of the mortal within."

It is so natural to wish to be well spoken of, whether alive or dead, that I imagine he could not be quite exempt from that desire; and that at least he wished to be thought a wit, or he would not have given himself the trouble of writing so good an epitaph to leave behind him. Was it not as worthy of his care, that the world should say he was an honest and a good man? I like better the concluding sentiment in the old song, called *The Old Man's Wish*, wherein, after wishing for a warm house in a country town, an easy horse, some good authors, ingenious and cheerful companions, a pudding on Sundays, with stout ale and a bottle of Burgundy, etc., etc., in separate stanzas, each ending with this burthen,

" May I govern my passions with absolute sway,
Grow wiser and better as my strength wears away,
Without gout or stone, by a gentle decay,"

he adds:

"With a courage undaunted may I face the last day,
And, when I am gone, may the better sort say:
'In the morning when sober, in the evening when mellow,
He 's gone, and has not left behind him his fellow;
For he governed his passions,' etc."

But what signifies our wishing? Things happen, after all, as they will happen. I have sung that *wishing song* a thousand times when I was young, and now find, at fourscore, that the three contraries have befallen me—being subject to the gout and the stone, and not being yet master of all my passions. Like the proud girl in the country, who wished and resolved not to marry a parson, nor a Presbyterian, nor an Irishman; and at length found herself married to an Irish Presbyterian parson.

You see I have some reason to wish that, in a future state, I may not only be *as well as I was*, but a little better. And I hope it; for I, too, with your poet, *trust in God.* And when I observe that there is great frugality as well as wisdom in his works, since he has been evidently sparing both of labor and materials, for by the various inventions of propagation he has provided for the continual peopling his world with plants and animals, without being at the trouble of repeated new creations; and by the natural reduction of compound substances to their original elements, capable of being employed in new compositions, he has prevented the necessity of creating new matter; so that the earth, water, air, and perhaps fire, which, being compounded from wood, do, when the wood is dissolved, return, and again become air, earth, fire, and water;—I say that when I see nothing annihilated, and not even a drop of water wasted, I cannot suspect the annihilation of souls, or believe that he will suffer the daily waste of millions of minds ready made that now exist, and put himself to the continual trouble of making new ones. Thus finding

myself to exist in the world, I believe I shall, in some shape or other, always exist; and, with all the inconveniences human life is liable to, I shall not object to a new edition of mine; hoping, however, that the *errata* of the last may be corrected.

I return your note of children received in the Foundling Hospital at Paris, from 1741 to 1755, inclusive; and I have added the years succeeding, down to 1770. Those since that period I have not been able to obtain. I have noted in the margin the gradual increase, viz., from every tenth child so thrown upon the public, till it comes to every third! Fifteen years have passed since the last account, and probably it may now amount to one half. Is it right to encourage this monstrous deficiency of natural affection? A surgeon I met with here excused the women of Paris, by saying, seriously, that they *could not* give suck; "*car*," said he "*elles n'ont point de tetons*." He assured me it was a fact, and bade me look at them, and observe how flat they were on the breast; "they have nothing more there," said he, "than I have upon the back of my hand. I have since thought that there might be some truth in his observation, and that, possibly, nature, finding they made no use of bubbies, has left off giving them any. Yet, since Rousseau pleaded, with admirable eloquence, for the rights of children to their mother's milk, the mode has changed a little; and some ladies of quality now suckle their infants and find milk enough. May the mode descend to the lower ranks, till it becomes no longer the custom to pack their infants away, as soon as born, to the *Enfans Trouvés*,

with the careless observation that the king is better able to maintain them.

I am credibly informed that nine tenths of them die there pretty soon, which is said to be a great relief to the institution, whose funds would not otherwise be sufficient to bring up the remainder. Except the few persons of quality above mentioned, and the multitude who send to the hospital, the practice is to hire nurses in the country to carry out the children and take care of them there. Here is an office for examining the health of nurses and giving them licenses. They come to town on certain days of the week in companies to receive the children, and we often meet trains of them on the road returning to the neighboring villages, with each a child in her arms. But those who are good enough to try this way of raising their children are often not able to pay the expense; so that the prisons are crowded with wretched fathers and mothers confined *pour mois de nourrice*, though it is laudably a favorite charity to pay for them and set such prisoners at liberty. I wish success to the new project of assisting the poor to keep their children at home, because I think there is no nurse like a mother (or not many), and that, if parents did not immediately send their infants out of sight, they would in a few days begin to love them, and thence be spurred to greater industry for their maintenance. This is a subject you understand better than I, and, therefore, having perhaps said too much, I drop it. I only add to the notes a remark, from the *History of the Academy of Sciences*, much in favor of the Foundling Institution.

The Philadelphia Bank goes on, as I hear, very well. What you call the Cincinnati Institution is no institution of our government, but a private convention among the officers of our late army, and so universally disliked by the people, that it is supposed it will be dropped. It was considered as an attempt to establish something like an hereditary rank or nobility. I hold with you, that it was wrong; may I add, that all *descending* honors are wrong and absurd; that the honor of virtuous actions appertains only to him that performs them, and is in its nature incommunicable. If it were communicable by descent, it must also be divisible among the descendants; and the more ancient the family, the less would be found existing in any one branch of it; to say nothing of the greater chance of unlucky interruptions.[1]

Our Constitution seems not to be well understood with you. If the Congress were a permanent body, there would be more reason in being jealous of giving it powers. But its members are chosen annually, cannot be chosen more than three years successively, nor more than three years in seven; and any of them may be recalled at any time, whenever their constituents shall be dissatisfied with their conduct.[2] They are of the people, and return again to mix with the people, having no more durable pre-eminence than the different grains of sand in an hour-glass. Such an assembly cannot easily become dangerous to liberty. They are the servants of the people, sent together to do the people's business and promote the

[1] See Franklin's letter to Mrs. Bache, dated January 26, 1784.

[2] These were the provisions of the old Confederation.

public welfare; their powers must be sufficient, or their duties cannot be performed. They have no profitable appointments, but a mere payment of daily wages, such as are scarcely equivalent to their expenses; so that, having no chance for great places and enormous salaries or pensions, as in some countries, there is no canvassing or bribing for elections.

I wish Old England were as happy in its government, but I do not see it. Your people, however, think their constitution the best in the world, and affect to despise ours. It is comfortable to have a good opinion of one's self, and of every thing that belongs to us; to think one's own religion, king, and wife the best of all possible wives, kings, or religions. I remember three Greenlanders, who had travelled two years in Europe under the care of some Moravian missionaries, and had visited Germany, Denmark, Holland, and England. When I asked them, at Philadelphia, where they were on their way home, whether, now they had seen how much more commodiously the white people lived by the help of the arts, they would not choose to remain among us, their answer was, that they were pleased with having an opportunity of seeing so many fine things, *but they chose to* LIVE *in their own country.* Which country, by the way, consisted of rock only, for the Moravians were obliged to carry earth in their ship from New York, for the purpose of making a cabbage garden.

By Mr. Dolland's saying that my double spectacles can only serve particular eyes, I doubt he has not been rightly informed of their construction. I imagine it will be found pretty generally true, that

the same convexity of glass, through which a man sees clearest and best at the distance proper for reading, is not the best for greater distances. I therefore had formerly two pair of spectacles, which I shifted occasionally, as in travelling I sometimes read, and often wanted to regard the prospects. Finding this change troublesome, and not always sufficiently ready, I had the glasses cut, and half of each kind associated in the same circle. By this means, as I wear my spectacles constantly, I have only to move my eyes up or down, as I want to see distinctly far or near, the proper glasses being always ready. This I find more particularly convenient since my being in France, the glasses that serve me best at table to see what I eat not being the best to see the faces of those on the other side of the table who speak to me; and when one's ears are not well accustomed to the sounds of a language, a sight of the movements in the features of him that speaks helps to explain; so that I understand French better by the help of my spectacles.

My intended translator of your piece, the only one I know who understands the *subject*, as well as the two languages (which a translator ought to do, or he cannot make so good a translation), is at present occupied in an affair that prevents his undertaking it; but that will soon be over. I thank you for the notes. I should be glad to have another of the printed pamphlets.

We shall always be ready to take your children, if you send them to us. I only wonder that, since London draws to itself and consumes such numbers

of country people, the country should not, to supply their places, want and willingly receive the children you have to dispose of. That circumstance, together with the multitude who voluntarily part with their freedom as men, to serve for a time as lackeys, or for life as soldiers, in consideration of small wages, seems to me proof that your island is over-peopled. And yet it is afraid of emigrations! Adieu, my dear friend, and believe me ever yours very affectionately,

B. FRANKLIN.

MCCCXLIV

FROM THOMAS PERCIVAL

MANCHESTER, 23 May, 1785.

DEAR SIR:—I owe you my most cordial acknowledgments for the very friendly letter with which you favored me last summer by Mr. Smeathman. Your ingenious manuscript concerning the cause of the severe cold in the winter of 1783–84 I delivered to our Philosophical Society, and it is ordered by the Committee on Papers to be inserted in a volume of Memoirs, which is now in the press. I am commissioned to return the thanks of the Society to you for this communication, to request your future correspondence, and to acquaint you that we have honored our Institution by electing you an extraordinary member.

The gentleman who took charge of your diploma conveys it with a little tract of mine on the *Perceptive Power of Vegetables*. To the whimsical doc-

trine contained in this *jeu d'esprit* you will readily believe I can hardly be a convert. Yet, the further we carry our researches into the comparative nature of animals and vegetables, the more shall we find that they elucidate the economy of each other, and reciprocally discover principles which are common to both. Late observations have evinced that animals have the power of resisting, to a certain point, such degrees of heat or cold as are injurious to them. It is obvious that vegetables must be endued with the same faculty, because they are found to flourish in climates where the circumambient air varies considerably from their proper temperature. And the fact has been fully illustrated by Mr. John Hunter's experiments.

Your very kind acceptance of the volume of *Moral and Literary Dissertations*, which I sent to you by Mr. Thomas White, afforded me the sincerest satisfaction; and the honor you did me by perusing the whole of it before you slept, is more flattering to me than the approbation of a hundred critics.

I have lately received a very valuable present from my friend Dr. Watson, Bishop of Landaff. It is a collection of tracts on the *Evidences of Natural and Revealed Religion*, selected from the works of churchmen, laymen, and dissenters, systematically arranged in six octavo volumes, so as to form a complete library for the junior and inferior clergy. I am charmed with the candor, the liberality, and the spirit of catholicism, which his Lordship has avowed with the utmost energy and freedom in his Preface. The true Christian charity of a bishop, thus mani-

fested, will promote the interest of the Church of England far more honorably and permanently than creeds, tests, or anathemas. He has proved himself the generous minister of peace, and if his brethren follow so laudable an example by offering the olive branch, instead of brandishing the sword or throwing down the gauntlet, I hope and trust an end will be put to theological contention and hostility.

Is there any prospect of your revisiting England? Few events would give me more delight than to have an opportunity of assuring you in person, with what cordial esteem and respect, I have the honor to be, dear sir, etc.,

THOMAS PERCIVAL.

MCCCXLV

FROM RICHARD PRICE

NEWINGTON GREEN, 3 June, 1785.

MY DEAR FRIEND:—I wrote to you and Mr. Jefferson a few weeks ago, and sent you some copies of the edition lately published here of my pamphlet on the American Revolution. Mr. Williams has given me much pleasure by calling upon me, and bringing me a letter from you. I have, according to your desire, furnished him with a list of such books on religion and government as I think some of the best, and added a present to the parish that is to bear your name, of such of my own publications as I think may not be unsuitable. Should this be the commencement of parochial libraries in the States, it will do great good.

Mr. Williams tells me that you have obtained permission to resign, and that you are likely soon to return to America, there to finish your life; a life which, without doubt, will be one of the most distinguished in future annals. Indeed, I cannot wonder that, after being so long tossed on the sea of politics, and seeing your country, partly under your guidance, carried through a hard contest, and a most important revolution established, you should wish to withdraw to rest and tranquillity.

May the best blessings of Heaven attend you, and the sad malady under which you are suffering be rendered as tolerable to you as possible. You are going to the New World; I must stay in this; but I trust there is a world beyond the grave, where we shall be happier than ever. I shall be always following you with my good wishes, and remain, with unalterable respect and affection, etc.,

RICHARD PRICE.

MCCCXLVI

FROM CLAUDIUS CRIGAN, BISHOP OF SODOR AND MAN

ISLE OF MAN, 7 June, 1785.

The name of Dr. Franklin stands so high in politics and philosophy, that it were a proof of the depth of ignorance and obscurity to be unacquainted with the great things he has done in both these useful sciences. Europe as well as America looks with equal veneration and admiration on the great man, who supported an oppressed and almost sinking

state, and forsook her not until he secured her freedom and established her independence among the sovereigns of the world. Some of these few, who have had the happiness of a personal acquaintance with him, have assured me they found him as willing to communicate his knowledge as he had been studious to obtain it, and that no one could leave him without carrying away some improvement and receiving the most pleasing entertainment.

When crowns court attention, it is scarcely decent for common people to solicit admission; but a Mr. Hamilton of Ireland, and some other friends of mine, have given me such accounts of your condescension, that I am emboldened to give you this trouble, and to presume so far as to entreat the liberty of introducing my vicar-general, the Reverend Mr. Christian, to you; and, as we have lately received some imperfect sketches of the establishment of the Episcopal Church of England in the southern colonies of North America, should Mr. Christian request any information from you, or propose any thing for the benefit of religion in that quarter of the world, you may depend with the greatest safety on his talents and intelligence in Church business, as well as his sincerity in assisting me in executing any part in the system he may have the honor of proposing to you. I shall consider a few lines in acknowledgment of your forgiveness of this intrusion of myself and my friend upon you, as the greatest honor of my life, and remain, with the most profound respect, your most obedient servant,

CLAUDIUS SODOR AND MAN.

MCCCXLVII

ON THE ELECTIVE FRANCHISES ENJOYED BY THE SMALL BOROUGHS IN ENGLAND [1]

No man, or body of men, in any nation, can have a just right to any privilege or franchise not common to the rest of the nation, without having done the nation some service equivalent, for which the franchise or privilege was the recompense or consideration.

No man, or body of men, can be justly deprived of a common right, but for some equivalent offence or injury done to the society in which he enjoyed that right.

If a number of men are unjustly deprived of a common right, and the same is given in addition to the common rights of another number who have not merited such addition, the injustice is double.

Few, if any, of the boroughs in England ever performed any *such* particular service to the nation, entitling them to what they now claim as a privilege in elections.

Originally, in England, when the king issued his writs of calling upon the counties, cities, and boroughs, to depute persons who should meet him in Parliament, the intention was to obtain by that

[1] Addressed to Sir Charles Wyvill, and accompanied by the following note to him from the author, dated Passy, June 16, 1785: "I send you herewith the sketch I promised you. Perhaps there may be some use in publishing it; for, if the power of choosing now in the boroughs continues to be allowed as a right, they may think themselves more justifiable in demanding more for it, or holding back longer, than they would if they find that it begins to be considered as an abuse."

means more perfect information of the general state of the kingdom, its faculties, strength, and disposition, together with the advice their accumulated wisdom might afford him in "such arduous affairs of the realm" as he had to propose. And he might reasonably hope that measures approved by the deputies in such an assembly would, on their return home, be by them well explained, and rendered agreeable to their constituents and the nation in general. At that time, being sent to Parliament was not considered as being put into the way of preferment or increase of fortune; therefore no bribe was given to obtain the appointment. The deputies were to be paid wages by their constituents; therefore the being obliged to send and pay was considered rather as a duty than a privilege. At this day, in New England, many towns, who may and ought to send members to the Assembly, sometimes neglect to do it; they are then summoned to answer for their neglect, and fined if they cannot give a good excuse, such as some common misfortune, or some extraordinary public expense, which disabled them from affording, conveniently, the necessary wages. And, the wages allowed being barely sufficient to defray the deputy's expense, no solicitations are used to be chosen.

In England, as soon as the being sent to Parliament was found to be a step towards acquiring both honor and fortune, solicitations were practised, and, where they were insufficient, money was given. Both the ambitious and avaricious became candidates. But to solicit the poor laborer for his vote being

humiliating to the proud man, and to pay for it hurting the lover of money, they, when they met, joined in an act to diminish both these inconveniences, by depriving the poor of the right of voting, which certainly they were not empowered to do by the electors their constituents, the majority of whom were probably people of little property. The act was, therefore, not only unjust, but void. These lower people were immediately afterwards oppressed by another act, empowering the justices to fix the hire of day-laborers and their hours of work, and to send them to the house of correction if they refused to work for such hire; which was deposing them from their condition of freemen, and making them literally slaves.

But this was taking from *many* freemen a *common right*, and confirming it to a *few*. To give it back again to the many is a different operation. Of this the few have no just cause to complain, because they still retain the common right they always had, and lose only the exclusive additional power which they ought never to have had. And if they used it, when they had it, as a means of obtaining money, they should in justice, were it practicable, be obliged to refund and distribute such money among those who had been so unjustly deprived of their right of voting, or forfeit it to the public.

Corporations, therefore, or boroughs, who, from being originally called to send deputies to Parliament, when it was considered merely as a duty and not as a particular privilege, and therefore was never purchased by any equivalent service to the public,

continue to send, now that by a change of times it affords them profit in bribes, or emoluments of various kinds, have in reality *no right* to such advantages; which are besides in effect prejudicial to the nation, some of those who buy thinking they may sell.

They should therefore, in justice, be immediately deprived of such pretended right, and reduced to the condition of common freemen.

But they are perhaps too strong, and their interest too weighty, to permit such justice to be done. And a regard for public good in these people, influencing a voluntary resignation, is not to be expected.

If that be the case, it may be necessary to submit to the power of present circumstances, passions, and prejudices, and purchase, since we can do no better, their consent; as men, when they cannot otherwise recover property unjustly detained from them, advertise a reward to whoever will restore it, promising that no questions shall be asked.

MCCCXLVIII

TO THOMAS BARCLAY

PARIS, 19 June, 1785.

SIR:—With respect to my continuing to charge two thousand five hundred pounds sterling per annum as my salary, of which you desire some explanation, I send you, in support of that charge, the resolution of Congress, which is in these words:

"In Congress, October 5, 1779. Resolved, that each of the Ministers Plenipotentiary be allowed at the rate of two thousand five hundred pounds sterling per annum, and each of their secretaries at the rate of one thousand pounds sterling per annum, in full for their services and expenses respectively. That the salary of each of the said officers be computed from the time of his leaving his place of abode, to enter on the duties of his office, and be continued three months after the notice of his recall."

The several bills I afterwards received, drawn on the Congress banker, Mr. Grand, for my salary, were all calculated on that sum, as my salary; and neither the banker nor myself have received notice of any change respecting me. He has accordingly, since the drawing ceased, continued to pay me at the same rate. I have indeed heard that a resolution was passed last year, that the salaries of Plenipotentiaries should be no more than two thousand pounds sterling per annum. But the resolution, I suppose, can relate only to such Plenipotentiaries as should be afterwards appointed; for I cannot conceive that the Congress, after promising a minister twenty-five hundred pounds a year, and when he has thereby been encouraged to engage in a way of living for their honor which only that salary can support, would think it just to diminish it a fifth, and leave him under the difficulty of reducing his expenses proportionably, a thing scarce practicable; the necessity of which he might have avoided, if he had not confided in their original promise.

But the article of salary, with all the rest of my

accounts, will be submitted to the judgment of Congress, together with some other considerable articles I have not charged, but on which I shall expect, from their equity, some consideration. If, for want of knowing precisely the intention of Congress what expenses should be deemed public and what private, I have charged any article to the public which should be defrayed by me, their banker has my order, as soon as the pleasure of Congress shall be made known to him, to rectify the error by transferring the amount to my private account, and discharging by so much that of the public. I have the honor to be, etc.,

B. FRANKLIN.

MCCCXLIX

TO ———

PASSY, 20 June, 1785.

DEAR SIR:—I have just received the only letter from you that has given me pain. It informs me of your intention to attempt passing to England in the car of a balloon. In the present imperfect state of that invention, I think it much too soon to hazard a voyage of that distance. It is said here by some of those who have had experience, that, as yet, they have not found means to keep up a balloon more than two hours; for that, by now and then losing air to prevent rising too high and bursting, and now and then discharging ballast to avoid descending too low, these means of regulation are exhausted. Besides this, all the circumstances of danger by disappoint-

ment, in the operation of *soupapes*, etc., etc., seem not to be yet well known, and therefore not easily provided against. For, on Wednesday last, M. Pilâtre de Rosier, who had studied the subject as much as any man, lost his support in the air by the bursting of his balloon, or by some other means we are yet unacquainted with, and fell with his companion [1] from the height of one thousand toises on the rocky coast, and were both found dashed to pieces.

You, having lived a good life, do not fear for death. But pardon the anxious freedom of a friend, if he tells you that the continuance of your life being of importance to your family and your country, though you might laudably hazard it for their good, you have no right to risk it for a fancy. I pray God this may reach you in time, and have some effect towards changing your design; being ever, my dear friend, yours affectionately,

B. FRANKLIN.

MCCCL

TO FRANCIS MASERES

PASSY, 26 June, 1785.

SIR:—I have just received your friendly letter of the 20th instant. I agree with you perfectly in the opinion, that, though the contest has been hurtful to both our countries, yet the event, a separation, is better even for yours than success. The reducing and

[1] The Marquis d'Arlandes.

keeping us in subjection by an armed force would have cost you more than the dominion could be worth, and our slavery would have brought on yours. The ancient system of the British empire was a happy one, by which the colonies were allowed to govern and tax themselves. Had it been wisely continued, it is hard to imagine the degree of power and importance in the world that empire might have arrived at. All the means of growing greatness, extent of territory, agriculture, commerce, arts, population, were within its own limits, and therefore at its command.

I used to consider that system as a large and beautiful porcelain vase; I lamented the measures that I saw likely to break it, and strove to prevent them; because, once broken, I saw no probability of its being ever repaired. My endeavors did not succeed; we are broken, and the parts must now do as well as they can for themselves. We may still do well, though separated. I have great hopes of our side, and good wishes for yours. The anarchy and confusion you mention, as supposed to prevail among us, exist only in your newspapers. I have authentic accounts, which assure me that no people were ever better governed, or more content with their respective constitutions and governments, than the present Thirteen States of America.

A little reflection may convince any reasonable man that a government wherein the administrators are chosen annually by the free voice of the governed, and may also be recalled at any time if their conduct displeases their constituents, cannot be a tyrannical

one, as your loyalists represent it; who at the same time inconsistently desire to return and live under it. And, among an intelligent, enlightened people, as ours is, there must always be too numerous and too strong a party for supporting good government and the laws, to suffer what is called anarchy. This better account of our situation must be pleasing to your humanity, and therefore I give it you.

But we differ a little in our sentiments respecting the loyalists (as they call themselves), and the conduct of America towards them, which, you think, "seems actuated by a spirit of revenge; and that it would have been more agreeable to policy, as well as justice, to have restored their estates upon their taking the oaths of allegiance to the new governments." That there should still be some resentment against them in the breasts of those, who have had their houses, farms, and towns so lately destroyed, and relations scalped under the conduct of these royalists, is not wonderful; though I believe the opposition given by many to their re-establishing among us is owing to a firm persuasion that there could be no reliance on their oaths; and that the effect of receiving those people again would be an introduction of that very anarchy and confusion they falsely reproach us with. Even the example you propose, of the English Commonwealth's restoring the estates of the royalists after their being subdued, seems rather to countenance and encourage our acting differently, as probably if the power, which always accompanies property, had not been restored to the royalists, if their estates had remained confiscated, and their per-

sons had been banished, they could not have so much contributed to the restoration of kingly power, and the new government of the republic might have been more durable.

The majority of examples in your history are on the other side of the question. All the estates in England and south of Scotland, and most of those possessed by the descendants of the English in Ireland, are held from ancient confiscations made of the estates of Caledonians and Britons, the original possessors in your island, or the native Irish, in the last century only. It is but a few months since, that your Parliament has, in a few instances, given up confiscations incurred by a rebellion suppresed forty years ago. The war against us was begun by a general act of Parliament declaring all our estates confiscated; and probably one great motive to the loyalty of the royalists was the hope of sharing in these confiscations. They have played a deep game, staking their estates against ours; and they have been unsuccessful. But it is a surer game, since they had promises to rely on from your government, of indemnification in case of loss; and I see your Parliament is about to fulfil those promises. To this I have no objection, because, though still our enemies, they are men; they are in necessity; and I think even a hired assassin has a right to his pay from his employer. It seems, too, more reasonable that the expense of paying these should fall upon the government who encouraged the mischief done, rather than upon us who suffered it; the confiscated estates making amends but for a very small part of that mischief. It is not,

therefore, clear that our retaining them is chargeable with injustice.

I have hinted above, that the name *loyalist* was improperly assumed by these people. *Royalists* they may perhaps be called. But the true *loyalists* were the people of America, against whom they acted. No people were ever known more truly loyal, and universally so, to their sovereigns. The Protestant succession in the House of Hanover was their idol. Not a Jacobite was to be found from one end of the colonies to the other. They were affectionate to the people of England, zealous and forward to assist in her wars, by voluntary contributions of men and money, even beyond their proportion. The king and Parliament had frequently acknowledged this by public messages, resolutions, and reimbursements. But they were equally fond of what they esteemed their rights; and if they resisted when those were attacked, it was a resistance in favor of a British constitution, which every Englishman might share in enjoying, who should come to live among them; it was resisting arbitrary impositions, that were contrary to common right and to their fundamental constitutions, and to constant ancient usage. It was indeed a resistance in favor of the liberties of England, which might have been endangered by success in the attempt against ours; and therefore a great man in your Parliament [1] did not scruple to declare, he *rejoiced that America had resisted.* I, for the same reason, may add this very resistance to the other instances of their loyalty. I have already said that

[1] The first Lord Chatham.

I think it just you should reward those Americans who joined your troops in the war against their own country; but if ever honesty could be inconsistent with policy, it is so in this instance. I am, etc.,

B. FRANKLIN.

MCCCLI

TO MRS. MARY HEWSON

PASSY, 26 June, 1785.

DEAR FRIEND:—I wrote to you the 5th of last month, and have since received your kind letters of the 8th, informing me of your welfare, and that of the dear children, which gave me great pleasure. I shall long to see you all again in America, where I hope to be soon. Almost all my things are now packed up, and will be in the barge next Wednesday, to go down the river; for, though I know not yet what vessel I shall go in, I would have every thing at Havre ready to embark; and I suppose I shall not be here myself a fortnight longer.

I say nothing to persuade you to go with me or to follow me; because I know you do not usually act from persuasion, but from judgment; and as that is very sound I leave you to yourself. You will do what is best for you and yours, and that will give me most pleasure. Miss Lamotte's friends do not consent to her going to England. I enclose her letter, by which you will see that though she speaks the language prettily, she does not write it correctly. Indeed, abundance of the French are deficient in their

own orthography. I offered her, as you desired, the money that might be necessary for the journey.

Temple is not yet quite well, having had several returns of his ague. Benjamin continues hearty, and has been very serviceable in packing. They both present their respects.

If you should write me a line before my departure, direct it to Havre de Grâce. Adieu, my very dear friend, and believe me ever yours, with sincerest respect and affection, B. FRANKLIN.

P. S.—My love to every one of the children.

MCCCLII

FROM RICHARD JACKSON

LONDON, 27 June, 1785.

MY DEAR SIR:—Though I wrote to you by your grandson, I cannot let Mr. Franklin, your son, visit you in France without certifying my sincere good wishes, on your leaving Europe, that you may arrive safe, and long enjoy your health in America.[1]

You will arrive there deservedly covered with the glory of having had a large share in bringing about an event which I wish had not become necessary for the welfare of two great divisions of the English nation, or that, when it became so, it had been brought about with less profusion of blood and treasure. But

[1] From this paragraph it would seem that Governor Franklin designed to visit his father in France. But it does not appear that this design was accomplished. The father and son met at Southampton, when Dr. Franklin stopped there on his way to the United States.

the frame of human nature is inseparable from passions that produce calamities, which the species will never be free from. It is, however, the part of the wise and good to afford that assistance to the species which wisdom only can, and goodness only will give. I know I have no occasion to exhort you to this good work; but I have pleasure in assuring you that I rely on the weight of your authority for establishing the opinion that it is not only the interest of Great Britain and America to live upon good terms with one another, but that this friendship is perfectly compatible with a mutual friendship between France and both of them.

For my part, I entertain no apprehensions from the supposed ambition of that kingdom. It has frequently given proofs of its desire to preserve the peace of Europe, one very recent; and, except in the East Indies, the two kingdoms seem to have nothing to quarrel about. I except the East Indies, not because I think that either have any interest inconsistent with the interest of the other, but because I think it most likely that one or the other may there mistake its interest. Sure I am that it is the interest of Great Britain to make the trade of France perfectly easy there, and with such a secure and easy trade, I wish Great Britain could change situations with her ancient rival. Dominion at such a distance, and in a country where despotism seems the natural growth of the climate, cannot be well; and it cannot but in the end be mischievous to the state that possesses it, however the wealth it produces may force for a time the appearance of affluence at home; an

affluence that may aid pernicious measures, but, at last, must be destructive in its consequences.

I cannot take my leave of you without congratulating you on the benefaction conferred on mankind by M. Necker. I have read more than once his excellent work, and some of the concluding chapters with ecstasy and tears. I flatter myself that the princes of the earth will read it, and that some of them will be affected as I have been; and perhaps some of their ministers. I need not say that many of his thoughts have been yours and my own, though I have never been able to express them with the elegance he has done.[1] In 1772 and 1777, I gave to Lord North two or three sheets; in the former year, on the subject of money; in the latter, on that of peace. The opinions therein contained I now find confirmed by an authority that I respect without bounds. I am, my dear sir, your affectionate and faithful servant,

RICHARD JACKSON.

MCCCLIII

FROM MATHON DE LA COUR

LYONS, 30 June, 1785.

SIR:—The Academy of Sciences, Belles Lettres, and Arts, of Lyons, informed by a letter from the

[1] Necker's treatise, entitled *Administration des Finances*, was published in 1784. It is stated in the *Biographie Universelle*, that eighty thousand copies were sold in a few days. The writer adds: "Jamais sujet aussi sérieux n'avait excité une curosité aussi universelle. C'était

Abbé Chalut, that you would willingly accept the title of its associate, hastened to offer it to you by a unanimous vote, and charges me to inform you of your election. We all feel, and we feel deeply, how much honor a name like yours confers upon a literary society whose principal object is the study of the natural sciences, upon which you have shed so much light, and in which at every step we meet monuments consecrated to your discoveries.

During the last years of my residence at Paris, my heart often beat with joy when I had an opportunity of joining my applause to that which all France seemed to think due to you, wherever you appeared. I am still more happy at this time, since I am requested, in the name of my fellow-citizens, to add one modest flower to the wreaths with which you are crowned, and am allowed the personal gratification of offering to you the homage of my profound veneration. The Academy has directed me to send to you the list of its members, and a table of the prizes which have hitherto been given. I shall venture to add a dissertation on the laws of Lycurgus, by the author of the *Testament de Fortuné Ricard*, which you condescended to receive with kindness, and your approbation of which has filled him with the liveliest gratitude. I have the honor to be, etc.,

MATHON DE LA COUR.

sans doute une chose nouvelle dans les habitudes d'une monarchie absolue, que de voir un ministre en retraite publier solennellement qu'il so consolait des disgraces de la cour avec les suffrages de la nation."

MCCCLIV

TO MRS. MARY HEWSON

PASSY, 4 July, 1785.

DEAR FRIEND:—By this post I have given orders to engage a fine ship, now at London, to carry me and my family to Philadelphia. My baggage is already on the Seine, going down to Havre, from whence, if the captain cannot call for us there, we shall cross the Channel, and meet him at Cowes, in the Isle of Wight. The ship has a large, convenient cabin, with good lodging-places. The whole to be at my disposition, and there is plenty of room for you and yours. You may never have so good an opportunity of passing to America, if it is your intention. Think of it, and take your resolution, believing me ever your affectionate friend,

B. FRANKLIN.

P. S.—Love to the dear children. If Mr. Williams is returned to London, he will inform you of the particulars. If not, you may inquire of Wallace, Johnson, & Muir, merchants, London, to be heard of at the Pennsylvania Coffee-House, Birchin Lane. The ship is to be at Cowes the first of August.

MCCCLV

TO EDWARD BRIDGEN, ESQ.

PASSY, 4 July, 1785.

DEAR SIR:—I received your favor of the 28th past. Agreeable to your desire, I inform you that I

hope to be at Havre about the 20th instant. My packages are gone down the river. Mr. Williams was to ask for my *Transactions of the Royal Society*. If he has not got them I should be obliged to you to procure and join them to those of the Antiquaries. I am not certain that I shall stay long at Havre; for if Captain Truxtun cannot call for me there, I must go over to meet the ship at the Isle of Wight, and be there by the 1st of August. This to yourself; but you may learn by a distant question at the Pennsylvania Coffee-House, for your own government, whether I am to wait at Havre for the ship, or to meet her as above. The person to enquire of is Mr. Johnson, a Maryland merchant. The books, however, should be put on board that ship, directed for me at Philadelphia.

With great esteem, I am ever, my dear friend yours affectionately,

B. FRANKLIN.

MCCCLVI

TO CLAUDIUS CRIGAN, BISHOP OF SODOR AND MAN

PASSY, 5 July, 1785.

MY LORD:—I received the too complaisant letter your Lordship did me the honor of writing to me by the Reverend Mr. Christian, who has also communicated some of your views for the benefit of religion in the United States of America, requesting my opinion, which I have given him, but will repeat in

this letter, lest I should not in every particular have been rightly apprehended.

It is proper to be understood that those States consist of thirteen distinct and separate sovereignties, each governed by its own laws, in which no one religious sect is established as predominant, but there is a general toleration of all, and should any thing be enacted by one of them in favor of a particular sect, it would have no operation in the others. The Congress, though formed by delegates from each State chosen annually, has powers extending only to those affairs of political government that relate to the whole, but no authority whatever is given to them in ecclesiastical matters. And I therefore think they will do nothing either to encourage or discourage the introduction of a bishop in America. For myself, I can only say as a private person that I think such an officer may be of use to the Episcopalians, not only for the better government of their clergy, but for preventing the expense and risk that attend the sending of their young men to England for ordination. He should, however, have power to consecrate other bishops, so as to prevent for ever the necessity of sending to England for successors in that station, otherwise he will hardly be so well received.

The great difficulty will be to make proper provision for his support. I doubt whether any of the governments will establish such support, and I have not much confidence that any thing considerable may be obtained by private contributions. My reasons are, that the Episcopalians in most of the States are very small in number, compared with the inhabitants

of other persuasions; and, where they are a majority, they do not generally see the necessity or utility of a resident bishop, and they apprehend some inconvenience in it. Of this there was a strong instance in Virginia, some years before the late Revolution. The inhabitants of that province were almost wholly of the Church of England, and their House of Commons of course the same. Yet that House unanimously censured, in strong terms, the proposition of some of their own clergy for introducing a bishop, and thanked others who opposed and defeated the project, as may be seen in the following extract from their Journal:

"Friday, July 12, 1772. Resolved, *nemine contradicente*, that the thanks of this House be given to the Reverend Mr. Henley, the Reverend Mr. Gwatkin, the Reverend Mr. Hewit, and the Reverend Mr. Bland, for the wise and well-timed opposition they have made to the *pernicious project* of a few mistaken clergymen for introducing an American bishop; a measure by which much disturbance, great anxiety, and apprehension would certainly take place among his Majesty's faithful American subjects, and that Mr. Richard Henry Lee and Mr. Bland do acquaint them therewith."

The apprehension mentioned in the Resolve, I imagine, must have been an apprehension of expense to maintain a bishop suitable to his dignity, and of attempts to oblige the laity to defray such expense by taxes or tithes, or at least of their being solicited for voluntary contributions, there being at present no fund appointed for such purpose, nor any thing

hitherto given but a farm, by legacy, in Rhode Island. If, however, the laity should have changed their minds, and wish now to have a bishop, whom they would engage to support by voluntary contributions, in that case, I imagine, none of the governments would forbid it, but the support would probably be too small and too precarious to be a sufficient encouragement.

Mr. Christian asked my opinion, whether your making a tour *incognito* through the country might not be a prudent measure. Whatever prospect or hope there may be of your greater usefulness to religion in our extensive country than in the little Isle of Man, yet, as you have a family, I certainly cannot advise your making any hasty application to your government for your removal, or taking any step that may hazard the loss of a present sure support against a contingent future and precarious. Therefore, to enable yourself to form a better judgment, it might be well to see with your own eyes the state of things, and sound the disposition of the people; but I am nevertheless inclined to think that, in making the tour, you will hardly be encouraged to attempt the change, unless the Society for Propagating the Gospel, or the British government, would fix a sufficient income to be paid you from England. Such a journey may, however, contribute to establish health, as well as pleasingly gratify the curiosity of seeing the progress which the arts, agriculture, science, and industry are making in a new country. With great respect, I have the honor to be, etc.,

B. FRANKLIN.

MCCCLVII

TO GRANVILLE SHARP

PASSY, 5 July, 1785.

DEAR SIR:—I received the books you were so kind as to send me by Mr. Drown. Please to accept my hearty thanks. Your writings, which always have some public good for their object, I always read with pleasure. I am perfectly of your opinion with respect to the salutary law of *gavelkind*, and hope it may in time be established throughout America. In six of the States, already, the lands of intestates are divided equally among the children, if all girls; but there is a double share given to the eldest son, for which I see no more reason than giving such share to the eldest daughter; and I think there should be no distinction. Since my being last in France, I have seen several of our eldest sons spending idly their fortunes by residing in Europe and neglecting their own country; these are from the Southern States. The Northern young men stay at home, and are industrious, useful citizens; the more equal division of their fathers' fortunes not enabling them to ramble and spend their shares abroad, which is so much the better for their country.

I like your piece on the election of bishops. There is a fact in Holinshed's *Chronicles*, the latter part relating to Scotland, which shows, if my memory does not deceive me, that the first bishop in that country was elected by the clergy. I mentioned it some time past in a letter to two young men,[1] who asked my advise about obtaining ordination,which

[1] See the letter to Messrs. Weems and Gant, July, 18, 1784.

had been denied them by the bishops in England unless they would take the oath of allegiance to the king; and I said, I imagine, that, unless a bishop is soon sent over with power to consecrate others, so that we may have no future occasion for applying to England for ordination, we may think it right, after reading your piece, to elect also.

The Liturgy you mention was an abridgment of that made by a noble lord of my acquaintance, who requested me to assist him by taking the rest of the book, viz., the Catechism and the reading and singing Psalms. These I abridged by retaining of the Catechism only the two questions: *What is your duty to God? What is your duty to your neighbor?* with answers. The Psalms were much contracted by leaving out the repetitions (of which I found more than I could have imagined) and the imprecations, which appeared not to suit well the Christian doctrine of forgiveness of injuries and doing good to enemies. The book was printed for Wilkie, in St. Paul's Churchyard, but never much noticed. Some were given away, very few sold, and I suppose the bulk became waste paper. In the prayers so much was retrenched, that approbation could hardly be expected; but I think, with you, a moderate abridgment might not only be useful, but generally acceptable.

I am now on the point of departing for America, where I shall be glad occasionally to hear from you, and of your welfare; being with sincere and great esteem, dear sir, your most obedient and most humble servant, B. FRANKLIN.

MCCCLVIII

TO DAVID HARTLEY

PASSY, 5 July, 1785.

I cannot quit the coasts of Europe without taking leave of my ever dear friend, Mr. Hartley. We were long fellow-laborers in the best of all works, the work of peace. I leave you still in the field, but, having finished my day's task, I am going home *to go to bed.* Wish me a good night's rest, as I do you a pleasant evening. Adieu! and believe me ever yours most affectionately,

B. FRANKLIN.

MCCCLIX

TO MATHON DE LA COUR

PASSY, 9 July, 1785.

SIR:—I have received the letter which you did me the honor to write in the name of the Academy of the City of Lyons. I accept with gratitude the title with which this learned society is kind enough to honor me. I have long been acquainted with its useful labors. I should be most happy to live near it, and reap the benefit of its instruction; but being on the eve of my departure for America, I must add this also to the many sources of regret which the kindness of the French calls forth in my heart. I shall never forget what I owe to them, still less what I owe to your Academy, to the members of which I beg you to present my respectful acknowledgments.

I thank you, sir, for your *Dissertation on the Laws*

of Lycurgus, and your *Testament de Fortuné Ricard.*[1] With the latter work I was already acquainted. I had read it with pleasure, and had conceived a high opinion of its author. I have just read your *Dissertation.* If my own approbation could add any thing to that of the celebrated Academy which has awarded to you the prize, I should tell you that I have been highly gratified, and that I only regret I can give you no other prize than the sentiments of regard and respect with which I am, Sir, etc.,

B. FRANKLIN.[2]

MCCCLX

FROM M. DE CASTRIES

VERSAILLES, 10 July, 1785.

SIR:—I was not apprised, until within a few hours, of the arrangements which you have made for your departure. Had I been informed of it sooner, I should have proposed to the king to order a frigate to convey you to your own country in a manner suitable to the known importance of the services you have been engaged in, to the esteem you have acquired in France, and the particular esteem which his Majesty entertains for you.

I pray you, sir, to accept my regrets, and the renewed assurance of the most entire consideration,

[1] A translation of this curious piece was published by Dr. Price in London as an appendix to his *Observations on the Importance of the American Revolution.*

[2] This letter is translated from a French copy.

with which I have the honor to be, sir, your very humble and very obedient servant,

DE CASTRIES.

MCCCLXI

TO MRS. MARY HEWSON

ST. GERMAIN, twelve miles from Paris, 13 July, 1785.

. . . I left Passy yesterday afternoon, and am here on my way to Havre de Grâce, a seaport, in order to embark for America. I make use of one of the king's litters, carried by mules, which walk steadily and easily, so that I bear the motion very well. I am to be taken on board a Philadelphia ship on the coast of England (Captain Truxtun), the beginning of next month. Not having written to you since the letter which contained a bill on Mount Vernon, and as I may not have another opportunity before my arrival in Philadelphia (if it pleases God I do arrive), I write these particulars to go by way of England, that you may be less uneasy about me. I did my last public act in this country just before I set out, which was signing a treaty of amity and commerce with Prussia. I have continued to work till late in the day; it is time I should go home and go to bed. . . .

MCCCLXII

FROM JONATHAN SHIPLEY, BISHOP OF ST. ASAPH

TWYFORD, 24 July, 1785.

MY EVER DEAR FRIEND:—The first emotion of my heart is to thank Heaven that you are once more so

near me, and that I shall have the happiness of seeing you in a few hours. Some of our good friends are come most untimely to dine with us. As soon as we are rid of them, my wife, and I, and the only daughter that is now with us will hasten to welcome you, and to enjoy, till the last moment of your departure, as much of the blessing of your conversation as we can without being tiresome. Adieu, till seven or eight in the evening. I will leave directions to hasten Mr. Williams. Ever yours,

J. St. Asaph.

MCCCLXIII

TO BENJAMIN VAUGHAN

Southampton, 8 o'clock, A.M., 24 July, 1785.

My Very Dear Friend:—I am this minute arrived here with my family from Havre de Grâce, and shall stay here till Captain Truxtun arrives at Cowes to take us in.[1] I write this line just to inform you that I bore the journey to Havre, in one of the king's litters, very well, and the voyage also from thence hither in forty-five hours, though the wind was a great part of the time contrary. I shall be glad of a line from you, acquainting me whether you ever received two pieces I sent you some months since: one on your penal laws, the other an account of the residence of an English seaman in China.[2] As you com-

[1] Thomas Truxtun, born on Long Island, February 17, 1755. When the navy was revived, 1794, Truxtun was one of the six captains first nominated by Washington to the Senate.

[2] See Vol. X., p. 311.

monly said something to me concerning the things I used to send you, I apprehend you either have not received these, or do not like them. If you have any thing to say by me to your friends in America, send it, and I will take care to deliver it. Adieu, my dearest friend. I am ever yours,

B. FRANKLIN.

MCCCLXIV

TO MR. LIMOZIN

SOUTHAMPTON, 25 July, 1785.

SIR:—We arrived here on Sunday morning about 7 o'clock. I was not in the least incommoded by the voyage, but my children and my friend Mr. Veillard were very sick.

I have just learned that our ship was at Gravesend the 22d and expected to be in the Downs yesterday, and therefore may be here sooner than was at first proposed, so that I have now no hopes of the goods being here in time to go in her. I therefore hereby desire you would forward them to New York in the packet, in case a packet sails from Havre next month, as has been proposed, and you have no vessel to sail directly for Philadelphia. The packets are indeed by the original regulations not allowed to take heavy goods upon freight, but I am persuaded Mr. Ruellan will at your request obtain the permission. I write to Mr. Grand to pay your account against me for disbursements and commission. And I desire you besides to accept my thankful acknowledgments.

My best wishes attend you and your amiable daughter, being with great regard, sir, your most obedient and most humble servant,

B. FRANKLIN.

MCCCLXV

TO MR. RUELLAN

SOUTHAMPTON, 25 July, 1785.

DEAR SIR:—We arrived here yesterday morning about 8 o'clock. I was not in the least incommoded by the voyage, but M. Le Veillard and my grandsons were all very sick upon the passage, though now recovered and well.

Capt. Jennings staying here till to-morrow morning, and having heard since my coming here that the ship has sailed from London, I begin to fear it will be impossible for him to return in time with the rest of my baggage, supposing it to be now at Havre.

I have forwarded your letter of credit to Messrs. Thellusson, and asked them to give me a credit here for fifty guineas, if I should want so much; but as my stay is like to be very short, I know not yet whether I shall have occasion to make any use of it. I am nevertheless extremely sensible of the kindness and generosity of your proceeding in that letter, as well as in every other point of your friendly entertainment and good offices at Havre, and the provision you laid in for us. I can at present only offer in return my thankful acknowledgments, requesting that if at any time I can be of any use to you in

America, or to any friend of yours, you would be so good as to command me freely. Be pleased to present my respectful compliments to good Mme. Ruellan. I hope the children are better.

I write to Mr. Limozin, desiring him to forward my goods by the packet, in case the next sails from Havre, as has been said, and no vessel offers sooner that goes directly to Philadelphia. If I remember right, the regulations of the packets forbid their taking heavy goods, but I suppose you may be able to obtain permission for mine, which will be an additional favor. With great esteem, etc.,

B. FRANKLIN.

MCCCLXVI

TO MR. HOLKER

SOUTHAMPTON, 25 July, 1785.

MY DEAR FRIEND:—I know it will give you and good Mrs. Holker pleasure, to learn that we arrived safe and well here yesterday morning, neither the journey by land nor the voyage by sea having incommoded me in the least. I have given you abundance of trouble with my little affairs, and am loth to give you any more, but cannot well avoid requesting you would be so kind as to show the enclosed account to Mr. Garvey when he returns to Rouen, and represent to him that the charge his nephew makes of commissions, three livres a box, only for the care of having my 128 boxes moved out of one boat into

another, appears to me exorbitant, amounting to 390 livres, near as much as the expense of bringing them from Paris to Rouen, and three times as much as has been demanded of me for their freight between Havre and Cowes, loading and discharging included. If Mr. Garvey confirms the charge, which I think he hardly will, let him say so at the bottom of the account, and then send it with this letter to Mr. Grand, whom I hereby desire and authorize to pay it; because I would not leave any just claim upon me remaining in France; though I should wish to know if there are any circumstances I am unacquainted with that can make such charge appear reasonable. God bless you both, my dear friends, and believe me ever, with a heart deeply sensible of all your kindness, yours most affectionately,

B. FRANKLIN.

MCCCLXVII

TO MR. GRAND

SOUTHAMPTON, 25 July, 1785.

DEAR SIR:—I wrote a few lines to you per post yesterday morning, to acquaint you with my arrival here, not in the least incommoded by the journey and voyage, but rather better than I have been for a long time past.

Our goods that were sent down the river had not arrived at Havre when we left that place, and as I learn here that our ship was at Gravesend the 22d.

and expected to be in the Downs yesterday evening, she may be here to-morrow, so that I now almost despair of getting them at Cowes in time to go in her, and they must be forwarded in the August packet if that sails from Havre, or wait some other opportunity. To me the disappointment will not be much, as the things I most immediately want came down by the *Roulier*, and are with me, but Mr. Houdon will be at a loss for his clay, etc. Mr. Limozin has the care of receiving and forwarding our things; but the business not being finished I could not settle the account with him, but have directed him to exhibit it to you, and I desire you would pay it. The person who manages Mr. Garvey's business in his absence has made a heavy charge against me as his commission. I have sent the account to Mr. Holker, desiring he would show it to Mr. Garvey on his return, and acquaint him that I think that charge enormous; but if he confirms it, then to send the account to you with my letter in which I desire you to pay it.

To assist my grandson in a purchase he is making of his father now here, perhaps I may draw on you in favor of the father for forty-eight thousand livres, at thirty days' sight; in which case I would have you to sell six of my Actions of the Caisse d'Escompte, and add to the produce of that sale as much out of the balance of my account now in your hands as will make up the sum of forty-eight thousand livres.

My best wishes attend you and yours, being with sincere esteem, dear sir, your most obliged friend and humble servant.

B. FRANKLIN.

MCCCLXVIII

TO MRS. MARY HEWSON

SOUTHAMPTON, 26 July, 1785.

DEAR FRIEND:—I received here yours of the 23d instant. I am sorry it did not suit you to go in the ship with me, having engaged places in the cabin that would have accommodated you and yours, not indeed on your account, because I never depended on your going; but I took the whole cabin, that I might not be intruded on by any accidental disagreeable company.

If you come to Philadelphia, you will find an always affectionate friend in me, and in my children after I am gone. My love to yours, and to Dolly; and my respects to Mrs. Hawkesworth. I came to Havre de Grâce in a litter, and hither in the packet boat; and, instead of being hurt by the journey or voyage, I really find myself very much better, not having suffered so little for the time these two years past.

Adieu, my dear friend; accept my repeated thanks for the agreeable winter your kind company, with that of my young friends, made me pass, and believe me ever yours, most sincerely and affectionately,

B. FRANKLIN.

MCCCLXIX

TO DR. LETTSOM

SOUTHAMPTON, 26 July, 1785.

DEAR SIR:—I received here your kind letter, and the valuable present of Dr. Fothergill's Works; for

which please to accept my grateful acknowledgments. I purpose, on my voyage, to write the remaining notes of my life, which you desire, and to send them to you on my arrival. You have done a good deed in contributing to promote science among us, by your liberal donation of books to Carlisle College. Thanks for your good wishes in favor of our country, and of your friend and servant.

B. FRANKLIN.

MCCCLXX

TO DAVID LE ROY [1]

At Sea, on Board the London Packet,
Captain Truxtun, August, 1785.

SIR:—Your learned writings on the navigation of the ancients, which contain a great deal of curious information, and your very ingenious contrivances for improving the modern sails (*voilure*), of which I saw with great pleasure a successful trial on the river Seine, have induced me to submit to your consideration and judgment, some thoughts I have had on the latter subject.

Those mathematicians, who have endeavored to improve the swiftness of vessels by calculating to find the form of least resistance, seem to have considered a ship as a body moving through one fluid only, the water; and to have given little attention to the circumstance of her moving through another

[1] Read at a meeting of the American Philosophical Society, December 2, 1785.

fluid, the air. It is true, that, when a vessel sails right before the wind, this circumstance is of no importance, because the wind goes with her; but, in every deviation from that course, the resistance of the air is something, and becomes greater in proportion as that deviation increases. I waive at present the consideration of those different degrees of resistance given by the air to that part of the hull which is above water, and confine myself to that given to the sails; for their motion through the air is resisted by the air, as the motion of the hull through the water is resisted by the water, though with less force as the air is a lighter fluid. And, to simplify the discussion as much as possible, I would state one situation only, to wit, that of the wind upon the beam, the ship's course being directly across the wind; and I would suppose the sail set in an angle of forty-five degrees with the keel, as in the following figure; wherein (Plate I., Fig. 1), *A B* represents the body of the vessel, *C D* the position of the sail, *E E E* the direction of the wind, *M M* the line of motion. In observing this figure it will appear that so much of the body of the vessel as is immersed in the water must, to go forward, remove out of its way what water it meets with between the pricked lines *F F*. And the sail, to go forward, must move out of its way all the air its whole dimension meets with between the pricked lines *C G* and *D G*. Thus both the fluids give resistance to the motion, each in proportion to the quantity of matter contained in the dimension to be removed. And, though the air is vastly lighter

than the water, and therefore more easily removed, yet, the dimension being much greater, its effect is very considerable.

It is true that, in the case stated, the resistance given by the air between those lines to the motion of the sail is not apparent to the eye, because the greater force of the wind, which strikes it in the direction *E E E*, overpowers its effect, and keeps the sail full in the curve *a*, *a*, *a*, *a*, *a*. But suppose the wind to cease, and the vessel in a calm to be impelled with the same swiftness by oars, the sail would then appear filled in the contrary curve *b*, *b*, *b*, *b*, *b*, when prudent men would immediately perceive, that the air resisted its motion, and would order it to be taken in.

Is there any possible means of diminishing this resistance, while the same quantity of sail is exposed to the action of the wind, and therefore the same force obtained from it? I think there is, and that it may be done by dividing the sail into a number of parts, and placing those parts in a line one behind the other; thus instead of one sail extending from *C* to *D*, figure 2, if four sails, containing together the same quantity of canvas, were placed as in figure 3, each having one quarter of the dimensions of the great sail, and exposing a quarter of its surface to the wind, would give a quarter of the force; so that the whole force obtained from the wind would be the same, while the resistance from the air would be nearly reduced to the space between the pricked lines *a b* and *c d*, before the foremost sail.

It may perhaps be doubted whether the resistance from the air would be so diminished; since possibly each of the following small sails having also air before it, which must be removed, the resistance on the whole would be the same.

This is then a matter to be determined by experiment. I will mention one, that I many years since made with success for another purpose; and I will propose another small one easily made. If that too succeeds, I should think it worth while to make a larger, though at some expense, on a river boat; and perhaps time, and the improvements experience will afford, may make it applicable with advantage to larger vessels.

Having near my kitchen chimney a round hole of eight inches diameter, through which was a strong steady current of air, increasing or diminishing only as the fire increased or diminished, I contrived to place my jack so as to receive that current; and, taking off the fliers, I fixed in their stead on the same pivot a round tin plate of nearly the same diameter with the hole; and having cut it in radial lines almost to the centre, so as to have six equal vanes, I gave to each of them the obliquity of forty-five degrees. They moved round, without the weight, by the impression only of the current of air, but too slowly for the purpose of roasting. I suspected that the air struck by the back of each vane might possibly by its resistance retard the motion; and to try this, I cut each of them into two, and I placed the twelve, each having the same obliquity, in a line behind each other, when I perceived a great augmentation in its

velocity, which encouraged me to divide them once more, and, continuing the same obliquity, I placed the twenty-four behind each other in a line, when the force of the wind being the same, and the surface of vane the same, they moved round with much greater rapidity, and perfectly answered my purpose.

The second experiment that I propose is, to take two playing cards of the same dimensions, and cut one of them transversely into eight equal pieces; then with a needle string them upon two threads, one near each end, and place them so upon the threads that, when hung up, they may be exactly one over the other, at a distance equal to their breadth, each in a horizontal position; and let a small weight, such as a bird-shot, be hung under them, to make them fall in a straight line when let loose. Suspend also the whole card by threads from its four corners, and hang to it an equal weight, so as to draw it downwards when let fall, its whole breadth pressing against the air. Let those two bodies be attached, one of them to one end of a thread a yard long, the other to the other end. Extend a twine under the ceiling of a room, and put through it at thirty inches' distance two pins bent in the form of fish-hooks. On these hooks hang the two bodies, the thread that connects them extending parallel to the twine, which thread being cut, they must begin to fall at the same instant. If they take equal time in falling to the floor, it is a proof that the resistance of the air is in both cases equal. If the whole card requires a longer time, it shows that the sum of the resistances

to the pieces of the cut card is not equal to the resistance of the whole one.[1]

This principle so far confirmed, I would proceed to make a larger experiment, with a shallop, which I would rig in this manner. (Plate I., Fig. 4.) *A B* is a long boom, from which are hoisted seven jibs, *a*, *b*, *c*, *d*, *e*, *f*, *g*, each a seventh part of the whole dimensions, and as much more as will fill the whole space when set in an angle of forty-five degrees, so that they may lap when going before the wind, and hold more wind when going large. Thus rigged, when going right before the wind, the boom should be brought at right angles with the keel, by means of the sheet ropes *C D*, and all the sails hauled flat to the boom.

These positions of boom and sails to be varied as the wind quarters. But when the wind is on the beam, or when you would turn to windward, the boom is to be hauled right fore and aft, and the sails trimmed according as the wind is more or less against your course.

It seems to me that the management of a shallop so rigged would be very easy, the sails being run up and down separately, so that more or less sail may be made at pleasure; and I imagine that there being full as much sail exposed to the force of the wind which impels the vessel in its course, as if the whole were in one piece, and the resistance of the dead air against the foreside of the sail being diminished, the

[1] The motion of the vessel made it inconvenient to try this simple experiment at sea, when the proposal of it was written. But it has been tried since we came on shore, and succeeded as the other.

advantage of swiftness would be very considerable; besides that the vessel would lie nearer the wind.

Since we are on the subject of improvements in navigation, permit me to detain you a little longer with a small relative observation. Being, in one of my voyages, with ten merchant ships under convoy of a frigate at anchor in Torbay, waiting for a wind to go to the westward, it came fair, but brought in with it a considerable swell. A signal was given for weighing, and we put to sea all together; but three of the ships left their anchors, their cables parting just as the anchors came a-peak. Our cable held, and we got up our anchor; but the shocks the ship felt before the anchor got loose from the ground, made me reflect on what might possibly have caused the breaking of the other cables; and I imagined it might be the short bending of the cable just without the hawse-hole, from a horizontal to an almost vertical position, and the sudden violent jerk it receives by the rising of the head of the ship on the swell of a wave while in that position. For example, suppose a vessel hove up so as to have her head nearly over her anchor, which still keeps its hold, perhaps in a tough bottom; if it were calm, the cable still out would form nearly a perpendicular line, measuring the distance between the hawse-hole and the anchor; but if there is a swell, her head in the trough of the sea will fall below the level, and when lifted on the wave will be much above it. In the first case the cable will hang loose and bend perhaps as in figure 5. In the second case, figure 6, the cable will be drawn straight with a jerk, must sustain the whole force of

the rising ship, and must either loosen the anchor, resist the rising force of the ship, or break. But why does it break at the hawse-hole?

Let us suppose it a cable of three inches diameter, and represented by figure 7. If this cable is to be bent round the corner *A*, it is evident that either the part of the triangle contained between the letters *a*, *b*, *c*, must stretch considerably, and those most that are nearest the surface; or that the parts between *d*, *e*, *f*, must be compressed; or both, which most probably happens. In this case, the lower half of the thickness affords no strength against the jerk, it not being strained, the upper half bears the whole, and the yarns near the upper surface being first and most strained, break first, and the next yarns follow; for in this bent situation they cannot bear the strain all together, and each contribute its strength to the whole, as they do when the cable is strained in a straight line.

To remedy this, methinks it would be well to have a kind of large pulley wheel, fixed in the hawse-hole, suppose of two feet diameter, over which the cable might pass; and, being there bent gradually to the round of the wheel, would thereby be more equally strained, and better able to bear the jerk, which may save the anchor, and by that means in the course of the voyage may happen to save the ship.

One maritime observation more shall finish this letter. I have been a reader of newspapers now near seventy years, and I think few years pass without an account of some vessel met with at sea, with no living soul on board, and so many feet of water in her

hold, which vessel has nevertheless been saved and brought into port; and when not met with at sea, such forsaken vessels have often come ashore on some coast. The crews, who have taken to their boats and thus abandoned such vessels, are sometimes met with and taken up at sea by other ships, sometimes reach a coast, and are sometimes never heard of. Those that give an account of quitting their vessels generally say that she sprung a leak, that they pumped for some time, that the water continued to rise upon them, and that, despairing to save her, they had quitted her, lest they should go down with her. It seems by the event that this fear was not always well founded, and I have endeavored to guess at the reason of the people's too hasty discouragement.

When a vessel springs a leak near her bottom, the water enters with all the force given by the weight of the column of water without, which force is in proportion to the difference of level between the water without and that within. It enters therefore with more force at first and in greater quantity than it can afterwards, when the water within is higher. The bottom of the vessel too is narrower, so that the same quantity of water coming into that narrow part, rises faster than when the space for it to flow in is larger. This helps to terrify. But, as the quantity entering is less and less as the surfaces without and within become more nearly equal in height, the pumps, that could not keep the water from rising at first, might afterwards be able to prevent its rising higher, and the people might have remained on board

in safety, without hazarding themselves in an open boat on the wide ocean. (Fig.8.)

Besides the greater equality in the height of the two surfaces, there may sometimes be other causes that retard the farther sinking of a leaky vessel. The rising water within may arrive at quantities of light wooden work, empty chests, and particularly empty water-casks, which if fixed so as not to float themselves may help to sustain her. Many bodies which compose a ship's cargo may be specifically lighter than water; all these when out of water are an additional weight to that of the ship, and she is in proportion pressed deeper into the water; but, as soon as these bodies are immersed, they weigh no longer on the ship, but, on the contrary, if fixed, they help to support her, in proportion as they are specifically lighter than the water. And it should be remembered that the largest body of a ship may be so balanced in the water that an ounce less or more of weight may leave her at the surface or sink her to the bottom. There are also certain heavy cargoes that, when the water gets at them, are continually dissolving, and thereby lightening the vessel, such as salt and sugar. And as to water-casks, mentioned above, since the quantity of them must be great in ships of war, where the number of men consume a great deal of water every day, if it had been made a constant rule to bung them up as fast as they were emptied, and to dispose the empty casks in proper situations, I am persuaded that many ships which have been sunk in engagements, or have gone down afterwards, might with the unhappy people

have been saved; as well as many of those which in the last war foundered and were never heard of. While on this topic of sinking, one cannot help recollecting the well-known practice of the Chinese, to divide the hold of a great ship into a number of separate chambers by partitions tight caulked (of which you gave a model in your boat upon the Seine), so that, if a leak should spring in one of them, the others are not affected by it; and, though that chamber should fill to a level with the sea, it would not be sufficient to sink the vessel. We have not imitated this practice. Some little disadvantage it might occasion in the stowage, is perhaps one reason, though that I think might be more than compensated by an abatement in the insurance that would be reasonable, and by a higher price taken of passengers, who would rather prefer going in such a vessel. But our seafaring people are brave, despise danger, and reject such precautions of safety, being cowards only in one sense, that of *fearing* to be *thought afraid.*

I promised to finish my letter with the last observation, but the garrulity of the old man has got hold of me, and, as I may never have another occasion of writing on this subject, I think I may as well now, once for all, empty my nautical budget, and give you all the thoughts that have in my various long voyages occurred to me relating to navigation. I am sure, that in you they will meet with a candid judge, who will excuse my mistakes on account of my good intention.

There are six accidents, that may occasion the loss

of ships at sea. We have considered one of them, that of foundering by a leak. The other five are: 1. Oversetting by sudden flaws of wind, or by carrying sail beyond the bearing. 2. Fire by accident or carelessness. 3. A heavy stroke of lightning, making a breach in the ship, or firing the powder. 4. Meeting and shocking with other ships in the night. 5. Meeting in the night with islands of ice.

To that of oversetting, privateers in their first cruise have, as far as has fallen within my knowledge or information, been more subject than any other kind of vessels. The double desire of being able to overtake a weaker flying enemy, or escape when pursued by a stronger, has induced the owners to overmast their cruisers, and to spread too much canvas; and the great number of men not seamen, who, being upon deck when a ship heels suddenly, are huddled down to leeward, and increase by their weight the effect of the wind. This therefore should be more attended to and guarded against, especially as the advantage of lofty masts is problematical. For the upper sails have greater power to lay a vessel more on her side, which is not the most advantageous position for going swiftly through the water. And hence it is that vessels, which have lost their lofty masts, and been able to make little more sail afterwards than permitted the ship to sail upon an even keel, have made so much way, even under jury masts, as to surprise the mariners themselves. But there is, besides, something in the modern form of our ships, that seems as if calculated expressly to allow their oversetting more easily. The sides of a ship,

instead of spreading out as they formerly did in the upper works, are of late years turned in so as to make the body nearly round, and more resembling a cask. I do not know what the advantages of this construction are, except that such ships are not easily boarded. To me it seems a contrivance to have less room in a ship at nearly the same expense. For it is evident that the same timber and plank consumed in raising the sides from *a* to *b*, and from *d* to *c*, would have raised them from *a* to *e*, and from *d* to *f*, fig. 9. In this form all the spaces between *e*, *a*, *b*, and *c*, *d*, *f*, would have been gained, the deck would have been larger, the men would have had more room to act, and not have stood so thick in the way of the enemy's shot; and the vessel, the more she was laid down on her side, the more bearing she would meet with, and more effectual to support her, as being farther from the centre. Whereas, in the present form, her ballast makes the chief part of her bearing, without which she would turn in the sea almost as easily as a barrel. More ballast by this means becomes necessary, and that, sinking a vessel deeper in the water occasions more resistance to her going through it. The Bermudian sloops still keep with advantage to the old spreading form.

The islanders in the great Pacific Ocean, though they have no large ships, are the most expert boat-sailors in the world, navigating that sea safely with their proas, which they prevent oversetting by various means. Their sailing proas for this purpose have outriggers generally to windward above the water, on which one or more men are placed, to move

occasionally farther from or nearer to the vessel as the wind freshens or slackens. But some have their outriggers to leeward, which, resting on the water, support the boat so as to keep her upright when pressed down by the wind. Their boats, moved by oars or rather by paddles, are, for long voyages, fixed two together by cross bars of wood that keep them at some distance from each other, and so render their oversetting next to impossible. How far this may be practicable in larger vessels, we have not yet sufficient experience. I know of but one trial made in Europe, which was about one hundred years since, by Sir William Petty. He built a double vessel, to serve as a packet-boat between England and Ireland. Her model still exists in the museum of the Royal Society, where I have seen it. By the accounts we have of her, she answered well the purpose of her construction, making several voyages; and, though wrecked at last by a storm, the misfortune did not appear owing to her particular construction, since many other vessels of the common form were wrecked at the same time. The advantage of such a vessel is, that she needs no ballast, therefore swims either lighter, or will carry more goods; and that passengers are not so much incommoded by her rolling; to which may be added, that if she is to defend herself by her cannon, they will probably have more effect, being kept more generally in a horizontal position, than those in common vessels. I think, however, that it would be an improvement of that model, to make the sides which are opposed to each other perfectly parallel,

though the other sides are formed as in common, thus, figure 10.

The building of a double ship would indeed be more expensive in proportion to her burthen; and that, perhaps, is sufficient to discourage the method.

The accident of fire is generally well guarded against by the prudent captain's strict orders against smoking between decks, or carrying a candle there out of a lantern. But there is one dangerous practice which frequent terrible accidents have not yet been sufficient to abolish—that of carrying store spirits to sea in casks. Two large ships, the *Serapis* and the *Duke of Athol*, one an East Indiaman, the other a frigate, have been burnt within these two last years, and many lives miserably destroyed by drawing spirits out of a cask near a candle. It is high time to make it a general rule that all the ship's stores of spirits should be carried in bottles.

The misfortune by a stroke of lightning I have in my former writings endeavored to show a method of guarding against, by a chain and pointed rod, extending, when run up, from above the top of the mast to the sea. These instruments are now made and sold at a reasonable price by Nairne & Co., in London, and there are several instances of success attending the use of them. They are kept in a box, and may be run up and fixed in about five minutes, on the apparent approach of a thundergust.

Of the meeting and shocking with other ships in the night, I have known two instances in voyages between London and America. In one, both ships arrived, though much damaged, each reporting

their belief that the other must have gone to the bottom. In the other, only one got to port; the other was never afterwards heard of. These instances happened many years ago, when the commerce between Europe and America was not a tenth part of what it is at present, ships of course thinner scattered, and the chance of meeting proportionably less. It has long been the practice to keep a *look-out before* in the channel, but at sea it has been neglected. If it is not at present thought worth while to take that precaution, it will in time become of more consequence, since the number of ships at sea is continually augmenting. A drum frequently beat or a bell rung in a dark night might help to prevent such accidents.

Islands of ice are frequently seen off the banks of Newfoundland by ships going between North America and Europe. In the daytime they are easily avoided, unless in a very thick fog. I remember two instances of ships running against them in the night. The first lost her bowsprit, but received little other damage. The other struck where the warmth of the sea had wasted the ice next to it, and a part hung over above. This perhaps saved her, for she was under great way; but the upper part of the cliff, taking her foretopmast, broke the shock, though it carried away the mast. She disengaged herself with some difficulty, and got safe into port; but the accident shows the possibility of other ships being wrecked and sunk by striking those vast masses of ice, of which I have seen one that we judged to be seventy feet high above the water, consequently

eight times as much under water; and it is another reason for keeping a good *look-out before*, though far from any coast that may threaten danger.

It is remarkable that the people we consider as savages have improved the art of sailing and rowing boats in several points beyond what we can pretend to.

We have no sailing boats equal to the flying proas of the South Seas, no rowing or paddling boat equal to that of the Greenlanders for swiftness and safety. The birch canoes of the North American Indians have also some advantageous properties. They are so light that two men may carry one of them overland which is capable of carrying a dozen upon the water; and in heeling they are not so subject to take in water as our boats, the sides of which are lowest in the middle where it is most likely to enter, this being highest in that part, as in figure 11.

The Chinese are an enlightened people, the most anciently civilized of any existing, and their arts are ancient, a presumption in their favor; their method of rowing their boats differs from ours, the oars being worked either two-a-stern, as we scull, or on the sides with the same kind of motion, being hung parallel to the keel on a rail, and always acting in the water, not perpendicular to the side, as ours are, nor lifted out at every stroke, which is a loss of time, and the boat in the interval loses motion. They see our manner and we theirs, but neither are disposed to learn of or copy the other.

To the several means of moving boats mentioned above, may be added the singular one lately exhib-

ited at Javelle, on the Seine below Paris, where a clumsy boat was moved across that river in three minutes by rowing, not in the water, but in the air, that is, by whirling round a set of windmill vanes fixed to a horizontal axis, parallel to the keel, and placed at the head of the boat. The axis was bent into an elbow at the end, by the help of which it was turned by one man at a time. I saw the operation at a distance. The four vanes appeared to be about five feet long, and perhaps two and a half wide. The weather was calm. The labor appeared to be great for one man, as the two several times relieved each other. But the action upon the air by the oblique surfaces of the vanes must have been considerable, as the motion of the boat appeared tolerably quick going and returning; and she returned to the same place from whence she first set out, notwithstanding the current. This machine is since applied to the moving of air-balloons; an instrument similar may be contrived to move a boat by turning under water.

Several mechanical projectors have at different times proposed to give motion to boats, and even to ships, by means of circular rowing, or paddles placed on the circumference of wheels to be turned constantly on each side of the vessel; but this method, though frequently tried, has never been found so effectual as to encourage a continuance of the practice. I do not know that the reason has hitherto been given. Perhaps it may be this, that great part of the force employed contributes little to the motion. For instance (fig. 12), of the four paddles *a*, *b*, *c*, *d*, all under water, and turning to move a boat from

X to *Y*, *c* has the most power, *b* nearly though not quite as much, their motion being nearly horizontal; but the force employed in moving *a* is consumed in pressing almost downright upon the water till it comes to the place of *b;* and the force employed in moving *d* is consumed in lifting the water till *d* arrives at the surface; by which means much of the labor is lost. It is true that, by placing the wheels higher out of the water, this waste labor will be diminished in a calm, but, where a sea runs, the wheels must unavoidably be often dipped deep in the waves, and the turning of them thereby rendered very laborious to little purpose.

Among the various means of giving motion to a boat, that of M. Bernoulli appears one of the most singular, which was to have fixed in the boat a tube in the form of an L, the upright part to have a funnel-kind of opening at top, convenient for filling the tube with water; which, descending and passing through the lower horizontal part, and issuing in the middle of the stern, but under the surface of the river, should push the boat forward. There is no doubt that the force of the descending water would have a considerable effect, greater in proportion to the height from which it descended; but then it is to be considered, that every bucketful pumped or dipped up into the boat, from its side or through its bottom, must have its *vis inertiæ* overcome so as to receive the motion of the boat, before it can come to give motion by its descent; and that will be a deduction from the moving power. To remedy this, I would propose the addition of another such L

pipe, and that they should stand back to back in the boat thus, figure 13; the forward one being worked as a pump, and sucking in the water at the head of the boat, would draw it forward while pushed in the same direction by the force of the stern. And after all it should be calculated whether the labor of pumping would be less than that of rowing. A fire-engine might possibly in some cases be applied in this operation with advantage.

Perhaps this labor of raising water might be spared, and the whole force of a man applied to the moving of a boat by the use of air instead of water. Suppose the boat constructed in this form, figure 14. *A*, a tube round or square of two feet diameter, in which a piston may move up and down. The piston to have valves in it, opening inwards to admit air when the piston rises; and shutting, when it is forced down by means of the lever *B* turning on the centre *C*. The tube to have a valve *D*, to open when the piston is forced down, and let the air pass out at *E*, which striking forcibly against the water abaft must push the boat forward. If there is added an air-vessel *F* properly valved and placed, the force would continue to act while a fresh stroke is taken with the lever. The boatman might stand with his back to the stern, and putting his hands behind him, work the motion by taking hold of the cross bar at *B*, while another should steer; or, if he had two such pumps, one on each side of the stern, with a lever for each hand, he might steer himself by working occasionally more or harder with either hand, as watermen now do with a pair of sculls. There is no

position in which the body of a man can exert more strength than in pulling right upwards.

To obtain more swiftness, greasing the bottom of a vessel is sometimes used, and with good effect. I do not know that any writer has hitherto attempted to explain this. At first sight, one would imagine that though the friction of a hard body sliding on another hard body, and the resistance occasioned by that friction, might be diminished by putting grease between them, yet that a body sliding on a fluid, such as water, should have no need of, nor receive, any advantage from such greasing. But the fact is not disputed. And the reason perhaps may be this. The particles of water have a mutual attraction, called the attraction of adhesion. Water also adheres to wood, and to many other substances, but not to grease; on the contrary, they have a mutual repulsion, so that it is a question whether, when oil is poured on water, they ever actually touch each other; for a drop of oil upon water, instead of sticking to the spot where it falls, as it would if it fell on a looking-glass, spreads instantly to an immense distance in a film extremely thin, which it could not easily do if it touched and rubbed or adhered even in a small degree to the surface of the water. Now the adhesive force of water to itself, and to other substances, may be estimated from the weight of it necessary to separate a drop, which adheres, while growing, till it has weight enough to force the separation and break the drop off. Let us suppose the drop to be the size of a pea; then there will be as many of these adhesions as there are drops of that

size touching the bottom of a vessel, and these must be broken by the moving power, every step of her motion that amounts to a drop's breadth; and there being no such adhesions to break between the water and a greased bottom, may occasion the difference.

So much respecting the motion of vessels. But we have sometimes occasion to stop their motion, and, if a bottom is near enough, we can cast anchor. Where there are no soundings, we have as yet no means to prevent driving in a storm but by lying-to, which still permits driving at the rate of about two miles an hour; so that in a storm continuing fifty hours, which is not an uncommon case, the ship may drive one hundred miles out of her course; and should she in that distance meet with a lee shore, she may be lost.

To prevent this driving to leeward in deep water, a swimming anchor is wanting, which ought to have these properties.

1. It should have a surface so large as, being at the end of a hawser in the water, and placed perpendicularly, should hold so much of it, as to bring the ship's head to the wind, in which situation the wind has least power to drive her.

2. It should be able, by its resistance, to prevent the ship's receiving way.

3. It should be capable of being situated below the heave of the sea, but not below the undertow.

4. It should not take up much room in the ship.

5. It should be easily thrown out, and put into its proper situation.

6. It should be easy to take in again, and stow away.

An ingenious old mariner, whom I formerly knew, proposed, as a swimming anchor for a large ship, to have a stem of wood twenty-five feet long and four inches square, with four boards of eighteen, sixteen, fourteen, and twelve feet long, and one foot wide, the boards to have their substance thickened several inches in the middle by additional wood, and to have each a four-inch square hole through its middle, to permit its being slipped on occasionally upon the stem, and at right angles with it; where, all being placed and fixed at four feet distance from each other, it would have the appearance of the old mathematical instrument called a forestaff. This thrown into the sea, and held by a hawser veered out to some length, he conceived would bring a vessel up, and prevent her driving, and when taken in might be stowed away by separating the boards from the stem; figure 15. Probably such a swimming anchor would have some good effect; but it is subject to this objection, that, lying on the surface of the sea, it is liable to be hove forward by every wave, and thereby give so much leave for the ship to drive.

Two machines for this purpose have occurred to me, which, though not so simple as the above, I imagine would be more effectual, and more easily manageable. I will endeavor to describe them, that they may be submitted to your judgment, whether either would be serviceable; and, if they would, to which we should give the preference.

The first is to be formed and to be used in the water on almost the same principles with those of a paper kite used in the air. Only, as the paper kite

rises in the air, this is to descend in the water. Its dimensions will be different for ships of different size.

To make one of suppose fifteen feet high: take a small spar of that length for the backbone, *A B*, figure 16, a smaller of half that length, *C D*, for the cross piece. Let these be united by a bolt at *E*, yet so as that by turning on the bolt they may be laid parallel to each other. Then make a sail of strong canvas in the shape of figure 17. To form this, without waste of sailcloth, sew together pieces of the proper length, and for half the breadth, as in figure 18, then cut the hole in the diagonal lines, *a*, *b*, *c*, and turn the piece *F* so as to place its broad part opposite to that of the piece *G*, and the piece *H*, in like manner opposite to *I*, which, when all sewed together, will appear as in figure 17. This sail is to be extended on the cross of figure 16, the top and bottom points well secured to the ends of the long spar; the two side points *d*, *e*, fastened to the ends of two cords, which, coming from the angle of the loop (which must be similar to the loop of a kite), pass through two rings at the ends of the short spar, so as that on pulling upon the loop the sail will be drawn to its extent. The whole may, when aboard, be furled up, as in figure 19, having a rope from its broad end, to which is tied a bag of ballast for keeping that end downwards when in the water, and at the other end another rope with an empty keg at its end to float on the surface; this rope long enough to permit the kite's descending into the undertow, or if you please lower into still water. It should be held by a hawser. To get it home easily, a small loose rope may be

veered out with it, fixed to the keg. Hauling on that rope will bring the kite home with small force, the resistance being small, as it will then come endways.

It seems probable that such a kite at the end of a long hawser would keep a ship with her head to the wind, and, resisting every tug, would prevent her driving so fast as when her side is exposed to it and nothing to hold her back. If only half the driving is prevented, so that she moves but fifty miles instead of the hundred during a storm, it may be some advantage, both in holding so much distance as is saved, and in keeping from a lee shore. If single canvas should not be found strong enough to bear the tug without splitting, it may be doubled, or strengthened by a netting behind it, represented by figure 20.

The other machine for the same purpose is to be made more in the form of an umbrella, as represented in figure 21. The stem of the umbrella, a square spar of proper length, with four movable arms, of which two are represented, *C*, *C*, figure 22. These arms to be fixed in four joint cleats, as *D*,*D*, etc., one on each side of the spar, but so as that the four arms may open by turning on a pin in the joint. When open, they form a cross, on which a four-square canvas sail is to be extended, its corner fastened to the ends of the four arms. Those ends are also to be stayed by ropes fastened to the stem or spar, so as to keep them short of being at right angles with it; and to the end of one of the arms should be hung the small bag of ballast, and to the end of

the opposite arm the empty keg. This, on being thrown into the sea, would immediately open; and when it had performed its function, and the storm over, a small rope from its other end being pulled on, would turn it, close it, and draw it easily home to the ship. This machine seems more simple in its operation, and more easily manageable than the first, and perhaps may be as effectual.[1]

Vessels are sometimes retarded, and sometimes forwarded in their voyages, by currents at sea, which are often not perceived. About the year 1769 or 1770 there was an application made by the Board of Customs at Boston to the Lords of the Treasury in London, complaining that the packets between Falmouth and New York were generally a fortnight longer in their passages than merchant-ships from London to Rhode Island, and proposing that for the future they should be ordered to Rhode Island instead of New York. Being then concerned in the management of the American post-office, I happened to be consulted on the occasion; and it appearing strange to me that there should be such a difference between two places scarce a day's run asunder, especially when the merchant-ships are generally deeper laden and more weakly manned than the packets, and had from London the whole length of the river and channel to run before they left the land of England, while the packets had only to go

[1] Captain Truxtun, on board whose ship this was written, has executed this proposed machine; he has given six arms to the umbrella; they are joined to the stem by iron hinges, and the canvas is double. He has taken it with him to China. February, 1786.

from Falmouth, I could not but think the fact misunderstood or misrepresented. There happened then to be in London a Nantucket sea-captain of my acquaintance, to whom I communicated the affair. He told me he believed the fact might be true; but the difference was owing to this, that the Rhode Island captains were acquainted with the Gulf Stream, which those of the English packets were not. "We are well acquainted with that stream," says he, "because in our pursuit of whales, which keep near the sides of it, but are not to be met with in it, we run down along the sides, and frequently cross it to change our side; and in crossing it have sometimes met and spoke with those packets who were in the middle of it and stemming it. We have informed them that they were stemming a current that was against them to the value of three miles an hour, and advised them to cross it and get out of it; but they were too wise to be counselled by simple American fishermen. When the winds are but light," he added, "they are carried back by the current more than they are forwarded by the wind; and, if the wind be good, the subtraction of seventy miles a day from their course is of some importance." I then observed it was a pity no notice was taken of this current upon the charts, and requested him to mark it out for me, which he readily complied with, adding directions for avoiding it in sailing from Europe to North America. I procured it to be engraved by order from the general post-office, on the old chart of the Atlantic, at Mount & Page's, Tower Hill; and copies were sent down to Falmouth

for the captains of the packets, who slighted it, however; but it is since printed in France, of which edition I hereto annex a copy.[1]

This stream is probably generated by the great accumulation of water on the eastern coast of America between the tropics, by the trade-winds which constantly blow there. It is known that a large piece of water, ten miles broad and generally only three feet deep, has by a strong wind had its waters driven to one side and sustained so as to become six feet deep, while the windward side was laid dry. This may give some idea of the quantity heaped upon the American coast, and the reason of its running down in a strong current through the islands into the Bay of Mexico, and from thence issuing through the Gulf of Florida, and proceeding along the coast to the Banks of Newfoundland, where it turns off towards and runs down through the western islands. Having since crossed the stream several times in passing between America and Europe, I have been attentive to sundry circumstances relating to it, by which to know when one is in it; and besides the gulfweed with which it is interspersed, I find that it is always warmer than the sea on each side of it, and that it does not sparkle in the night. I annex hereto the observations made with the thermometer in two voyages, and possibly may add a third. It will appear from them that the thermometer may be a useful instrument to a navigator, since currents coming from the northward into southern seas will probably be found colder than the water of those

[1] See Plate, Vol. X., p. 364.

seas, as the currents from southern seas into northern are found warmer. And it is not to be wondered that so vast a body of deep warm water, several leagues wide, coming from between the tropics and issuing out of the gulf into the northern seas, should retain its warmth longer than the twenty or thirty days required to its passing the Banks of Newfoundland. The quantity is too great, and it is too deep to be suddenly cooled by passing under a cooler air. The air immediately over it, however, may receive so much warmth from it as to be rarefied and rise, being rendered lighter than the air on each side of the stream; hence those airs must flow in to supply the place of the rising warm air, and, meeting with each other, form those tornados and waterspouts frequently met with and seen near and over the stream. And as the vapor from a cup of tea in a warm room, and the breath of an animal in the same room, are hardly visible, but become sensible immediately when out in the cold air, so the vapor from the Gulf Stream in warm latitudes is scarcely visible, but when it comes into the cool air from Newfoundland, it is condensed into the fogs, for which those parts are so remarkable.

The power of wind to raise water above its common level in the sea is known to us in America by the high tides occasioned in all our seaports when a strong northeaster blows against the Gulf Stream.

The conclusion from these remarks is, that a vessel from Europe to North America may shorten her passage by avoiding to stem the stream, in which the thermometer will be very useful; and a vessel from

America to Europe may do the same by the same means of keeping in it. It may have often happened accidentally that voyages have been shortened by these circumstances. It is well to have the command of them.

But may there not be another cause, independent of winds and currents, why passages are generally shorter from America to Europe than from Europe to America? This question I formerly considered in the following short paper:

On Board the Pennsylvania Packet, Captain Osborne, at Sea, 5 April, 1775.

"Suppose a ship to make a voyage eastward from a place in latitude 40° north, to a place in latitude 50° north, distance in longitude 75 degrees.

"In sailing from 40 to 50, she goes from a place where a degree of longitude is about eight miles greater than in the place she is going to. A degree is equal to four minutes of time; consequently the ship in the harbor she leaves, partaking of the diurnal motion of the earth, moves two miles in a minute faster than when in the port she is going to —which is one hundred and twenty miles in an hour.

"This motion in a ship and cargo is of great force; and if she could be lifted up suddenly from the harbor in which she lay quiet, and set down instantly in the latitude of the port she was bound to, though in a calm, that force contained in her would make her run a great way at a prodigious rate. This force must be lost gradually in her voyage, by gradual impulse against the water, and probably thence

shorten the voyage. Query. In returning, does the contrary happen, and is her voyage thereby retarded and lengthened?" [1]

Would it not be a more secure method of planking ships, if, instead of thick single planks laid horizontally, we were to use planks of half the thickness, and lay them double and across each other, as in figure 23? To me it seems that the difference of expense would not be considerable, and that the ship would be both tighter and stronger.

The securing of the ship is not the only necessary thing; securing the health of the sailors, a brave and valuable order of men, is likewise of great importance. With this view the methods so successfully practised by Captain Cook, in his long voyages, cannot be too closely studied or carefully imitated. A full account of those methods is found in Sir John Pringle's speech, when the medal of the Royal Society was given to that illustrious navigator. I am glad to see in his last voyage, that he found the means effectual which I had proposed for preserving flour, bread, etc., from moisture and damage. They were found dry and good after being at sea four years. The method is described in my printed works, page 452, fifth edition.[2] In the same, pages 469, 470,[3] is proposed a means of allaying thirst in case of want of fresh water. This has since been practised in two

[1] Since this paper was read at the Society, an ingenious member, Mr. Patterson, has convinced the writer that the returning voyage would not, from this cause, be retarded.—F.

[2] See the description referred to, Vol. III., p. 433.

[3] See letter to Miss Mary Stevenson, Aug. 10, 1761, in Supplement, Vol. XII.

instances with success. Happy if their hunger, when the other provisions are consumed, could be relieved as commodiously; and perhaps in time this may be found not impossible. An addition might be made to their present vegetable provision by drying various roots in slices by the means of an oven. The sweet potato of America and Spain is excellent for this purpose. Other potatoes, with carrots, parsnips, and turnips, might be prepared and preserved in the same manner.

With regard to make-shifts in cases of necessity, seamen are generally very ingenious themselves. They will excuse, however, the mention of two or three. If they happen in any circumstance, such as after shipwreck, taking to their boat, or the like, to want a compass, a fine sewing needle laid on clear water in a cup will generally point to the north, most of them being a little magnetical, or may be made so by being strongly rubbed or hammered, lying in a north and south direction. If their needle is too heavy to float by itself, it may be supported by little pieces of cork or wood. A man who can swim may be aided in a long traverse by his handkerchief formed into a kite, by two cross sticks extending to the four corners; which, being raised in the air when the wind is fair and fresh, will tow him along while lying on his back. When force is wanted to move a heavy body, and there are but few hands and no machines, a long and strong rope may make a powerful instrument. Suppose a boat is to be drawn up on a beach, that she may be out of the surf; a stake drove into the beach where you

would have the boat drawn, and another to fasten the end of the rope to, which comes from the boat, and then applying what force you have to pull upon the middle of the rope at right angles with it, the power will be augmented in proportion to the length of rope between the posts. The rope being fastened to the stake, *A* and drawn upon in the direction *C D*, will slide over the stake *B;* and when the rope is bent to the angle *A D B*, represented by the pricked line in figure 24, the boat will be at *B*.

Some sailors may think the writer has given himself unnecessary trouble in pretending to advise them; for they have a little repugnance to the advice of landmen, whom they esteem ignorant and incapable of giving any worth notice; though it is certain that most of their instruments were the invention of landsmen. At least the first vessel ever made to go on the water was certainly such. I will therefore add only a few words more, and they shall be addressed to passengers.

When you intend a long voyage, you may do well to keep your intention as much as possible a secret, or at least the time of your departure; otherwise you will be continually interrupted in your preparations by the visits of friends and acquaintances, who will not only rob you of the time you want, but put things out of your mind, so that when you come to sea, you have the mortification to recollect points of business that ought to have been done, accounts you intended to settle, and conveniences you had proposed to bring with you, etc., etc., all which have been omitted through the effect of these

officious friendly visits. Would it not be well if this custom could be changed; if the voyager, after having, without interruption, made all his preparations, should use some of the time he has left, in going himself to take leave of his friends at their own houses, and let them come to congratulate him on his happy return?

It is not always in your power to make a choice in your captain, though much of your comfort in the passage may depend on his personal character, as you must for so long a time be confined to his company, and under his direction; if he be a sensible, sociable, good-natured, obliging man, you will be so much the happier. Such there are; but, if he happens to be otherwise, and is only skilful, careful, watchful, and active in the conduct of his ship, excuse the rest, for these are the essentials.

Whatever right you may have by agreement in the mass of stores laid in by him for the passengers, it is good to have some particular things in your own possession, so as to be always at your own command.

1. Good water, that of the ship being often bad. You can be sure of having it good only by bottling it from a clear spring or well, and in clean bottles. 2. Good tea. 3. Coffee, ground. 4. Chocolate. 5. Wine of the sort you particularly like, and cider. 6. Raisins. 7. Almonds. 8. Sugar. 9. Capillaire. 10. Lemons. 11. Jamaica spirits. 12. Eggs, greased. 13. Diet bread. 14. Portable soup. 15. Rusks. As to fowls, it is not worth while to have any called yours, unless you could have the feeding and manag-

ing of them according to your own judgment, under your own eye. As they are generally treated at present in ships, they are for the most part sick, and their flesh tough and hard as whit-leather. All seamen have an opinion, broached, I suppose, at first prudently, for saving of water when short, that fowls do not know when they have drunk enough, and will kill themselves if you give them too much, so they are served with a little only once in two days. This is poured into troughs that lie sloping, and therefore immediately runs down to the lower end. There the fowls ride upon one another's backs to get at it, and some are not happy enough to reach and once dip their bills in it. Thus tantalized, and tormented with thirst, they cannot digest their dry food; they fret, pine, sicken, and die. Some are found dead, and thrown overboard every morning, and those killed for the table are not eatable. Their troughs should be in little divisions, like cups, to hold the water separately, figure 25. But this is never done. The sheep and hogs are therefore your best dependence for fresh meat at sea, the mutton being generally tolerable and the pork excellent.

It is possible your captain may have provided so well in the general stores as to render some of the particulars above recommended of little or no use to you. But there are frequently in the ship poorer passengers, who are taken at a lower price, lodge in the steerage, and have no claim to any of the cabin provisions, or to any but those kinds that are allowed the sailors. These people are sometimes dejected,

sometimes sick; there may be women and children among them. In a situation where there is no going to market to purchase such necessaries, a few of these your superfluities, distributed occasionally, may be of great service, restore health, save life, make the miserable happy, and thereby afford you infinite pleasure.

The worst thing in ordinary merchant ships is the cookery. They have no professed cook, and the worst hand as a seaman is appointed to that office, in which he is not only very ignorant but very dirty. The sailors have therefore a saying, that *God sends meat, and the Devil cooks.* Passengers more piously disposed, and willing to believe Heaven orders all things for the best, may suppose that, knowing the sea air and constant exercise by the motion of the vessel would give us extraordinary appetites, bad cooks were kindly sent to prevent our eating too much; or that, foreseeing we should have bad cooks, good appetites were furnished to prevent our starving. If you cannot trust to these circumstances, a spirit-lamp, with a blaze-pan, may enable you to cook some little things for yourself, such as a hash, a soup, etc. And it might be well also to have among your stores some potted meats, which, if well put up, will keep long good. A small tin oven, to place with the open side before the fire, may be another good utensil, in which your own servant may roast for you a bit of pork or mutton. You will sometimes be induced to eat of the ship's salt beef, as it is often good. You will find cider the best quencher of that thirst which salt meat or fish occasions. The

ship biscuit is too hard for some sets of teeth. It may be softened by toasting. But rusk is better; for being made of good fermented bread, sliced and baked a second time, the pieces imbibe the water easily, soften immediately, digest more kindly, and are therefore more wholesome than the unfermented biscuit. By the way, rusk is the true original biscuit, so prepared to keep for sea, biscuit in French signifying *twice baked*. If your dry peas boil hard, a two-pound iron shot put with them into the pot will, by the motion of the ship, grind them as fine as mustard.

The accidents I have seen at sea with large dishes of soup upon a table, from the motion of the ship, have made me wish that our potters or pewterers would make soup dishes in divisions, like a set of small bowls united together, each containing about sufficient for one person, in some such form as figure 26; for then, when the ship should make a sudden heel, the soup would not in a body flow over one side, and fall into people's laps and scald them, as is sometimes the case, but would be retained in the separate divisions, as in figure 27.

After these trifles, permit the addition of a few general reflections. Navigation, when employed in supplying necessary provisions to a country in want, and thereby preventing famines, which were so frequent and destructive before the invention of the art, is undoubtedly a blessing to mankind. When employed merely in transporting superfluities, it is a question whether the advantage of the employment it affords is equal to the mischief of hazarding so

many lives on the ocean. But when employed in pillaging merchants and transporting slaves, it is clearly the means of augmenting the mass of human misery. It is amazing to think of the ships and lives risked in fetching tea from China, coffee from Arabia, sugar and tobacco from America, all which our ancestors did well without. Sugar employs near one thousand ships, tobacco almost as many. For the utility of tobacco there is little to be said; and for that of sugar, how much more commendable would it be, if we could give up the few minutes' gratification afforded once or twice a day by the taste of sugar in our tea, rather than encourage the cruelties exercised in producing it. An eminent French moralist says that when he considers the wars we excite in Africa to obtain slaves, the numbers necessarily slain in those wars, the prisoners who perish at sea by sickness, bad provisions, foul air, etc., in the transportation, and how many afterwards die from the hardships of slavery, he cannot look on a piece of sugar without conceiving it stained with spots of human blood! Had he added the consideration of the wars we make to take and retake the sugar islands from one another, and the fleets and armies that perish in those expeditions, he might have seen his sugar not merely spotted, but thoroughly dyed scarlet in grain. It is these wars that make the maritime powers of Europe, the inhabitants of London and Paris, pay dearer for sugar than those of Vienna, a thousand miles from the sea; because their sugar costs not only the price they pay for it by the pound, but all they pay in taxes to

maintain the fleets and armies that fight for it.[1] With great esteem, I am, sir, your humble servant,

B. FRANKLIN.

Appendix to the above Letter

REMARKS UPON THE NAVIGATION FROM NEWFOUNDLAND TO NEW YORK[2]

After you have passed the Banks of Newfoundland in about the forty-fourth degree of latitude, you will meet with nothing till you draw near the Isle of Sables, which we commonly pass in latitude 43°. Southward of this isle, the current is found to extend itself as far north as 41° 20′ or 30′, then it turns towards the E. S. E. or S. E. 1¼ E.

Having passed the Isle of Sables, shape your course for St. George's Banks, so as to pass them in about latitude 40°, because the current southward of those banks reaches as far north as 39°. The shoals of those banks lie in 40° 35′.

After having passed St. George's Banks, you must, to clear Nantucket, form your course so as to pass between the latitudes 38° 30′ and 40° 45′.

The most southern part of the shoals of Nantucket lie in about 40° 45′. The northern part of the current directly to the south of Nantucket is felt in about latitude 38° 30′.

[1] Several of the closing paragraphs of this letter are the same in substance as the piece entitled, *Precautions to be Used by Those Who are about to Undertake a Sea Voyage*, Vol. V., p. 307.

[2] Read at a meeting of the American Philosophical Society, Dec. 2, 1785.

By observing these directions, and keeping between the stream and the shoals, the passage from the Banks of Newfoundland to New York, Delaware, or Virginia, may be considerably shortened; for so you will have the advantage of the eddy current, which moves contrary to the Gulf Stream. Whereas, if to avoid the shoals you keep too far to the southward, and get into that stream, you will be retarded by it at the rate of sixty or seventy miles a day.

The Nantucket whalemen being extremely well acquainted with the Gulf Stream, its course, strength, and extent, by their constant practice of whaling on the edges of it, from their island quite down to the Bahamas, this draft of that stream [Plate, Vol. X., p. 365] was obtained from one of them, Captain Folger, and caused to be engraved on the old chart in London, for the benefit of navigators, by

B. FRANKLIN.

NOTE.—The Nantucket captains, who are acquainted with this stream, make their voyages from England to Boston in as short a time generally as others take in going from Boston to England, viz., from twenty to thirty days.

A stranger may know when he is in the Gulf Stream, by the warmth of the water, which is much greater than that of the water on each side of it. If then he is bound to the westward, he should cross the stream to get out of it as soon as possible.

B. FRANKLIN.

Observations of the Warmth of the Sea Water, etc., by Fahrenheit's Thermometer, in Crossing the Gulf Stream; with other Remarks Made on Board the Pennsylvania Packet, Captain Osborne, Bound from London to Philadelphia, in April and May, 1775.

Date.	Hour.	Temp. of Air.	Temp. of Water.	Wind.	Course.	Distance.	Latitude N.	Longitude W.	Remarks.
April 10			62						
11			61						
12			64						
13			65						
14			65						
26		60	70				37° 39′	60° 38′	Much gulf weed; saw a whale.
27		60	70	S. S. E.	W. b. S.		37 13	62 29	Color of water changed.
28	8 A. M.	70	64	S. W.	W. N. W.		37 48	64 35	No gulf weed.
—	6 P. M.	67	60			34			Sounded, no bottom.
29	8 A. M.	63	71	N.	W.	44	37 26	66 0	Much light in the water last night.
—	5 P. M.	65	72	N. E.					Water again of the usual deep sea-color, little or no light in it at night.
—	11 "	66	66	N.W. b. N.	W.b. S.	57			
30	8 A. M.	64	70	N. E.	W. b. N.	69			
—	12	62	70		E. b. S.	24	37 20	68 53	Frequent gulf weed, water continues of sea-color, little light.
—	6 P. M.	64	72	E. S. E.	W. b. N.	43			
—	10 "	65	65	S.		25			Much light.
May 1	7 A. M.	68	63			60			Much light all last night.
—	12	65	56	S. S. W.	W. N. W.	44	38 13	72 23	Color of water changed.
—	4 P. M.	64	56		W. b. N.	21			Much light.
—	10 "	64	57	S. W.	W. N. W.	31			
2	8 A. M.	62	53			18	38 43	74 3	Much light. Thundergust.
—	12	60	53	W. S. W.	N. W.	18			
—	6 P. M.	64	55	N. W.	W. S. W.	15			
—	10 "	65	55	N. b. W.	W. b. N.	10			
3	7 A. M.	62	54			30	38 30	75 0	

Observations of the Warmth of the Sea Water [illegible] Made on Board the Reprisal, Captain Wickes [illegible] and November, 1776.

Date.	Hour A. M.	Hour P. M.	Temp. of Air.	Temp. of Water.	Wind.	Course.	[illegible]	[illegible]	[illegible]	[illegible]
Oct. 31	10		76	70	S. S. E.	E. b. S.	135	38° 12′	70° [illegible]	[illegible] day night, October 29, 1776.
—		4		71						
Nov. 1	10			78	W. S. W.	E. ½ N.	109	No obs.	68 12	
—		4	71	81						
2	8		71	75	N.					
—	12			78			141	Do.	65 23	
—		4	67	76						Some sparks in the water these two last nights.
3	8			76	N. W.	E.S.E. ½ E.				
—	12			76		E. b. S.	160	37 0	62 7	
—		4	70	76						
4	9		68	76		N. b. E.				Do.
—		1		76			194	36 26	58 8	
—		4	68	76						
—		8		78						
5	8		68	76		N. E.				Do.
—	12		70	75			163	35 21	55 3	
—		4		75						
—		8		75						
6	8			76	E. b. N.	S. 50 E.				
—	12			77			75	35 33	53 52	
7	8			78	S. E. b. E.	N. 30 W.				
—	12			77			108	36 6	52 46	
—		4		77						
8	9		75	77	S. b. E.	N. 49 E.				
—	12			77			175	38 2	50 1	
—		4		77						
9	9		75	77						
—	12		75	70	S. W.	N. 33 E.	175	39 39	46 55	

Observations of the Warmth of the Sea Water, etc., by Fahrenheit's Thermometer; with other Remarks Made on Board the Reprisal, Captain Wickes, Bound from Philadelphia to France, in October and November, 1776.—Continued.

Date.	Hour A. M.	Hour P. M.	Temp. of Air.	Temp. of Water.	Wind.	Course.	Distance.	Latitude N.	Longitude W.	Remarks.
Nov. 9		4		71						
10	8		70	68						
—	12			64	E.	N. 17 E.	64	40° 39′	46° 27′	
11	8			63						
—	12			61	S. E.	N. 8 E.	41	41 19	46 19	
12	8		56	59						
—		4		69	N. N. W.	N. 80 E.	120	41 39	43 42	
13	all day			68	E.	S. 82 E.	69	41 29	42 10	
14	8		70	70		N. 74 E.	111	42 0	49 57	
—		noon		72	E. S. E.					
—		4		71						
15	8		61	69						
—		noon		68	W. S. W.	N. 70 E.	186	43 3	35 61	
—		4		67						
16		noon	65	67	S. W.	N. 67 W.	48	43 22	34 50	
—		4		63						
17	8			63	E. S. E.	N. 19 E.	56	44 15	34 25	
18	all day			65	S. b. W.	N. 75 E.	210	45 6	29 43	Some gulf weed.
19		noon	65	64	S. W.	N. 80 E.	238	45 46	24 2	
20	8			62	N.	S. 80 E.	155	45 19	20 30	
—		4		60						
21	9			62	S.	N. 88 E.	94	45 22	18 17	
22	10		60	62	S. S. W.	S. 89 E.	133	45 19	15 19	
23		noon		61	W. S. W.	S. 86 E.	194	45 6	10 35	
24		do.		60	N. N. E.	N. 78 E.	191	45 46	6 10	
25		do.		60	N. E.	S. 76 E.	125	45 4	3 23	
26		do.	56	60	E.	N. 73 E.	31	45 13	2 20	
27		do.		58						Soundings off Belle-isle.
28		do.	54	56						

A Journal of a Voyage from the Channel between France and England towards America in 1785.

Dates.	Latitude N.	Long'de W.	Therm. A. M.		Therm. P. M.		Winds.	Course.	Distance.	Variation of the Needle.	Therm. Noon.	
			Air.	Water.	Air.	Water.					Air.	Water.
July 29			62	57			{ These are taken on an average of 24 hours. }					
30			62	58	63	58						
31			60	58	62	62			Miles.	West.		
Aug. 1	49° 15′	4° 15′	63	62	60	64	E.	S. W. ½ W.	60	22° 0′		
2	48 28	8 58	64	64	64	63	E. S. E.	W. b. S. ½ S.	174			
3	47 0	12 13	60	67	omitted		N. E.	S. W. b. W.	160			
4	45 0	15 43	66	66	do.	66	N. W. b. W.	S. W. ½ W.	190			
5	43 5	17 25	67	65	65	68	N. E.	S. W. b. S.	131	20 0		
6	41 3	19 44	70	68	71	69	N. E.	S. W. ½ S.	166	16 30		
7	38 45	21 34	70	70	68	70	N. E.	S. S. W. ¾ W.	165	11 30		
8	36 42	23 10	72	71	71	72	N. E.	S. S. W. ¾ W.	149	11 15		
9	35 40	25 40	73	73	73	74	N. E.	W. S. W. ¼ S.	137			
10	35 0	27 0	71	73	77	75	N. W.	W. S. W. ¾ S.	76			
11	33 51	28 42	74	74	76	77	N.	S. W. ½ W.	112			
12	33 30	31 30	76	75	76	76	N.	W. ¾ S.	143			
13	33 17	33 32	76	76	78	77	N. E.	W. ½ S.	103		77	78
14	33 22	34 31	76	76	81	79	S. S. E.	W. ½ N.	50		81	79
15	33 45	35 0	78	79	79	78	W. N. W.	S. W. ½ W.	35		79	79
16	34 14	35 30	79	78	81	80	W.	N. W. ½ N.	38		81	80
17	35 37	36 4	80	79	80	78	W. S. W.	N. N. W.	75		80	78
18	36 7	37 16	80	78	omitted		N. W. b. W.	W. N. W. ½ N.	65		80	79
19	36 38	38 0	78	77	78	77	W. S. W.	N. W. ½ W.	49		79	77

A Journal of a Voyage from the Channel between France and England towards America in 1785.—*Continued.*

Dates.	Latitude N.	Long'de W.	Therm. A. M.		Therm. P. M.		Winds.	Course.	Distance.	Variation of the Needle.	Therm. Noon.	
			Air.	Water.	Air.	Water.					Air.	Water.
Aug. 20	37 38	38 6	78	76	omitted		W.	N. ¼ W.	62		77	75
21	36 15	38 26	73	74	77	76	W. N. W.	S. b. W.	82		77	75
22	35 40	38 44	77	76	80	77	W. b. S.	S. S. W.	38		80	80
23	35 35	40 52	79	77	78	75	N.	W. ½ S.	100		omitted	
24	35 12	41 31	75	73	75	74	W. N. W.	S. W. b. W.	41		75	74
25	35 40	42 33	79	76	79	76	W. b. N.	W. N. W. ½ N.	60		80	76
26	35 30	42 44	79	76	80	76	S. W. b. W.	S. W. ½ S.	14		80	76
27	35 14	43 23	79	77	81	79	W.	W. S. W. ½ S.	38		81	78
28	34 23	44 0	78	76	78	78	N. N. E.	S. W. b. S.	60		78	78
29	34 12	45 52	77	78	78	78	N. E.	W. ½ S.	04	8° 0′	79	78
30	34 5	48 31	78	78	78	78	E.	W. ½ S.	134		78	78
31	34 20	51 4	80	79	81	79	E.	W. ½ S.	129		80	80
Sept. 1	34 20	52 47	81	78	omitted		S. S. W.	W. ½ N.	86		83	80
2	34 55	55 12	81	80	83	80	S. W.	W. b. N. ½ W.	125		83	80
3	35 36	57 24	83	80	83	80	S. W. b. S.	W. b. N. ½ N.	114	6 0	84	81
4	35 50	59 1	82	80	83	80	S. W. ½ W.	W. b. N. ½ N.	82		83	81
5	35 55	61 0	81	80	82	81	S. S. W.	W. ½ N.	96		82	81
6	36 20	62 30	80	81	79	80	N. W. b. N.	W. b. N.	75		78	80
7	34 50	63 10	87	80	78	81	N. W. b. N.	S. S. W.	87		78	81
8	34 45	64 40	75	79	75	79	N.	W. ½ S.	74		75	79
9	35 43	66 42	75	79	77	73	N. E.	W. N. W.	108		78	80
10	37 20	68 40	77	73	77	70	E. N. E.	N. W.	126		78	72

Observations

July 31. At 1 P.M. the Start bore W. N. W. distant six leagues.

August 1. The water appears luminous in the ship's wake.

— 2. The temperature of the water is taken at eight in the morning and at eight in the evening.

— 6. The water appears less luminous.

— 7. Formegas S. W. distant 32½ degrees. St. Mary's S. W. ½ S. 33 leagues.

— 8. From this date the temperature of the water is taken at eight in the morning and at six in the evening.

— 10. Moonlight, which prevents the luminous appearance of the water.

— 11. A strong southerly current.

— 12. Ditto. From this date the temperature of the air and water was taken at noon, as well as morning and evening.

— 16. Northerly current.

— 19. First saw gulf weed.

— 21. Southerly current.

— 22. Again saw gulf weed.

— 24. The water appeared luminous in a small degree before the moon rose.

— 29. No moon, yet very little light in the water.

— 30. Much gulf weed to-day.

— 31. Ditto.

September 1. Ditto.

— 2. A little more light in the water.

— 4. No gulf weed to-day. More light in the water.

September 5. Some gulf weed again.

— 6. Little light in the water. A very hard thunder-gust in the night.

— 7. Little gulf weed.

— 8. More light in the water. Little gulf weed.

— 9. Little gulf weed. Little light in the water last evening.

— 10. Saw some beds of rock-weed; and we were surprised to observe the water six degrees colder by the thermometer than the preceding noon.

This day (10th) the thermometer still kept descending, and at five in the morning of the 11th it was in water as low as 70, when we struck soundings. The same evening the pilot came on board, and we found our ship about five degrees of longitude ahead of the reckoning, which our captain accounted for by supposing our course to have been near the edge of the Gulf Stream, and thus an eddy-current always in our favor. By the distance we ran from September 9th, in the evening, till we struck soundings, we must have then been at the western edge of the Gulf Stream, and the change in the temperature of the water was probably owing to our suddenly passing from that current into the waters of our own climate.

On the 14th of August the following experiment was made. The weather being perfectly calm, an empty bottle, corked very tight, was sent down twenty fathoms, and it was drawn up still empty. It was then sent down again thirty-five fathoms, when the weight of the water having forced in the cork, it was drawn up full; the water it contained was immediately tried by the thermometer, and

found to be 70, which was six degrees colder than at the surface. The lead and bottle were visible, but not very distinctly so, at the depth of twelve fathoms; but, when only seven fathoms deep, they were perfectly seen from the ship. This experiment was thus repeated September 11th, when we were in soundings of eighteen fathoms. A keg was previously prepared with a valve at each end, one opening inward, the other outward; this was sent to the bottom in expectation that, by the valves being both open when going down, and both shut when coming up, it would keep within it the water received at bottom. The upper valve performed its office well, but the under one did not shut quite close, so that much of the water was lost in hauling it up the ship's side. As the water, in the keg's passage upwards, could not enter at the top, it was concluded that what water remained in it was of that near the ground; and, on trying this by the thermometer, it was found to be at 58, which was 12 degrees colder than at the surface.

[This last Journal was obligingly kept for me by Mr. J. Williams, my fellow-passenger in the London packet, who made all the experiments with great exactness.]

MCCCLXXI

FROM MISS CATHERINE LOUISA SHIPLEY

TWYFORD, 2 August, 1785.

MY DEAR GOOD FRIEND:—You gave me leave to write to you, and I take the first opportunity of

profiting by your indulgence. I do assure you, we all left your ship with a heavy heart; but the taking leave was a scene we wished to save you as well as ourselves. God grant you may have a good voyage; it is our constant *toast* every day at dinner. I was quite provoked with myself when I got to Southhampton that I had not thought of something to leave with you, that might have been useful during the voyage, to remind you of me. You produced a *housewife;* possibly you had no *pincushion;* how happy would it have made me to have given you one. Did you ever taste the ginger cake, and think it had belonged to your fellow-traveller? In short, I want some excuse for asking whether you ever think about me.

We are forever talking of our good friend; something is perpetually occurring to remind us of the time spent with you. We never walk in the garden without seeing *Dr. Franklin's room,* and thinking of the work that was begun in it.[1] I have sincerely wished you a *good* voyage, but, since the completion of *that work* depends on its length, I cannot wish it may be *short.* I had a letter from Emily the night after I got home, to inquire whether your stay at Southampton would allow time for her coming to see you. Bessy regretted much that she lost that happiness. I have written to dear Georgiana a long account of you, for I know every circumstance will be interesting to her.[2] Indeed, my dear sir, from

[1] It was in this room that Dr. Franklin wrote the first part of the Memoirs of his life, in the year 1771.

[2] Georgiana Shipley was married to a Mr. Hare, and was at this time residing in Italy.

my father and mother down to their *youngest child*, we all respect and love you. I have not sent the verses, because I intend to make them an excuse for troubling you with another letter. Believe me, my dear good friend, most affectionately yours,

CATHERINE LOUISA SHIPLEY.

MCCCLXXII

FROM DAVID HARTLEY

LONDON, 24 August, 1785.

MY DEAR FRIEND:—I thank you for your last kind remembrance of me from Southampton. I was very unfortunately absent in the country for the two days in which I could have had the pleasure of seeing you at Southampton had I heard of your being there. I heard it in London on Wednesday afternoon, the 27th of July. I got within a mile of Southampton the next morning, and met the Bishop of St. Asaph, who had just left you on board and under sail.

I greatly regret my disappointment. We were three of us, all of one name and of one affection and respect for you; though I must still claim the pre-ëminence in this above my relations, having had the happiness of knowing you most. Although we are separated, yet I hope you know me too well not to remain always assured that I shall forever continue united with you in our favorite pursuit of promoting good-will and a good understanding between our two countries, as the probable means of securing durable

peace, the best of human blessings. I hope you will remember me when you arrive in your own country, and that you will always consider me as an unalterable friend to peace and justice, and forever your friend and well-wisher.

My brother and sister desire to be most kindly remembered to you, as likewise my cousin, Mr. Samuel Hartley, whom you know, and his brother, Colonel James Hartley, desires to join, from his respect to your character, though he never had the pleasure of seeing you. I hope you will favor me with your correspondence, particularly upon any interesting public events. I ask this of you as a joint friend of amity and peace between our two countries. God bless you in health and happiness. Your ever most affectionate friend,

D. HARTLEY.

MCCCLXXIII

TO JOHN INGENHOUSZ, AT VIENNA [1]

AT SEA, 28 August, 1785.

DEAR FRIEND:—In one of your letters, a little before I left France, you desire me to give you in writing my thoughts upon the construction and use of chimneys, a subject you had sometimes heard me touch upon in conversation. I embrace willingly this leisure afforded by my present situation to

[1] This letter, which has been published in a separate pamphlet, both in England and America, first appeared in the *Transactions of the American Philosophical Society*, in which it was read, October 21, 1785. —EDITOR.

comply with your request, as it will not only show my regard to the desires of a friend, but may at the same time be of some utility to others; the doctrine of chimneys appearing not to be as yet generally well understood, and mistakes respecting them being attended with constant inconvenience, if not remedied, and with fruitless expense, if the true remedies are mistaken.

Those who would be acquainted with this subject should begin by considering on what principle smoke ascends in any chimney. At first many are apt to think that smoke is in its nature and of itself specifically lighter than air, and rises in it for the same reason that cork rises in water. These see no cause why smoke should not rise in the chimney, though the room be ever so close. Others think there is a power in chimneys to *draw* up the smoke, and that there are different forms of chimneys, which afford more or less of this power. These amuse themselves with searching for the best form. The equal dimensions of a funnel in its whole length are not thought artificial enough, and it is made, for fancied reasons, sometimes tapering and narrowing from below upwards, and sometimes the contrary, etc., etc. A simple experiment or two may serve to give more correct ideas. Having lit a pipe of tobacco, plunge the stem to the bottom of a decanter half filled with cold water; then putting a rag over the bowl, blow through it and make the smoke descend in the stem of the pipe, from the end of which it will rise in bubbles through the water; and, being thus cooled, will not afterwards rise to go out through the neck of

the decanter, but remain spreading itself and resting on the surface of the water. This shows that smoke is really heavier than air, and that it is carried upwards only when attached to, or acted upon, by air that is heated, and thereby rarefied and rendered specifically lighter than the air in its neighborhood.

Smoke being rarely seen but in company with heated air, and its upward motion being visible, though that of the rarefied air that drives it is not so, has naturally given rise to the error.

I need not explain to you, my learned friend, what is meant by rarefied air; but, if you make the public use you propose of this letter, it may fall into the hands of some who are unacquainted with the term and with the thing. These then may be told that air is a fluid which has weight as well as others, though about eight hundred times lighter than water. That heat makes the particles of air recede from each other and take up more space, so that the same weight of air heated will have more bulk than equal weights of cold air which may surround it, and in that case must rise, being forced upwards by such colder and heavier air, which presses to get under it and take its place. That air is so rarefied or expanded by heat may be proved to their comprehension by a lank blown bladder, which, laid before a fire, will soon swell, grow tight, and burst.

Another experiment may be to take a glass tube, about an inch in diameter and twelve inches long, open at both ends, and fixed upright on legs, so that it need not be handled, for the hands might warm it. At the end of a quill fasten five or six inches of the

finest light filament of silk, so that it may be hel either above the upper end of the tube or under th lower end, your warm hand being at a distance b the length of the quill (Plate II., Fig. 1). If ther were any motion of air through the tube it woul manifest itself by its effect on the silk; but if th tube and the air in it are of the same temperatur with the surrounding air, there will be no such mo tion, whatever may be the form of the tube, whethe crooked or straight, narrow below and widening up wards, or the contrary; the air in it will be quiescent Warm the tube and you will find, as long as it con tinues warm, a constant current of air entering be low and passing up through it till discharged at th top; because the warmth of the tube, being com municated to the air it contains, rarefies that air, an makes it lighter than the air without, which there fore presses in below, forces it upwards, and follow and takes its place, and is rarefied in its turn. And without warming the tube, if you hold under it knob of hot iron, the air thereby heated will rise an fill the tube, going out at its top; and this motion i the tube will continue as long as the knob remain hot, because the air entering the tube below is heate and rarefied by passing near and over that knob.

That this motion is produced merely by the diffe ence of specific gravity between the fluid within an that without the tube, and not by any fancied forc of the tube itself, may appear by plunging it int water contained in a glass jar a foot deep, throug which such motion might be seen. The water withi and without the tube, being of the same specif

gravity, balance each other, and both remain at rest. But take out the tube, stop its bottom with a finger, and fill it with olive oil, which is lighter than water, then stopping the top, place it as before, its lower end under water, its top a very little above. As long as you keep the bottom stopped, the fluids remain at rest; but the moment it is unstopped, the heavier enters below, forces up the lighter, and takes its place. And the motion then ceases, merely because the new fluid cannot be successfully made lighter, as air may be by a warm tube.

In fact, no form of the funnel of a chimney has any share in its operation or effect respecting smoke, except its height. The longer the funnel, if erect, the greater its force when filled with heated and rarefied air, to *draw* in below and drive up the smoke, if one may, in compliance with custom, use the expression *draw*, when in fact it is the superior weight of the surrounding atmosphere that *presses* to enter the funnel below, and so *drives up* before it the smoke and warm air it meets with in its passage.

I have been the more particular in explaining these first principles, because, for want of clear ideas respecting them, much fruitless expense has been occasioned; not only single chimneys, but in some instances within my knowledge whole stacks having been pulled down and rebuilt with funnels of different forms, imagined more powerful in *drawing* smoke, but having still the same height and the same opening below, have performed no better than their predecessors.

What is it then which makes a *smoky chimney;*

that is, a chimney which, instead of conveying up all the smoke, discharges a part of it into the room, offending the eyes and damaging the furniture?

The causes of this effect, which have fallen under my observation, amount to *nine*, differing from each other, and therefore requiring different remedies.

1. *Smoky chimneys in a new house are such, frequently, from mere want of air.* The workmanship of the rooms being all good, and just out of the workman's hand, the joints of the boards of the flooring, and of the panels of wainscoting are all true and tight, the more so as the walls, perhaps not yet thoroughly dry, preserve a dampness in the air of the room, which keeps the woodwork swelled and close. The doors and the sashes too, being worked with truth, shut with exactness, so that the room is as tight as a snuff-box, no passage being left open for air to enter, except the keyhole, and even that is sometimes covered by a little dropping shutter. Now, if smoke cannot rise but as connected with rarefied air, and a column of such air, suppose it filling the funnel, cannot rise unless other air be admitted to supply its place; and if, therefore, no current of air enter the opening of the chimney, there is nothing to prevent the smoke coming out into the room. If the motion upwards of the air in a chimney that is freely supplied be observed by the rising of the smoke or a feather in it, and it be considered that, in the time such feather takes in rising from the fire to the top of the chimney, a column of air equal to the contents of the funnel must be discharged, and an equal quantity supplied

from the room below, it will appear absolutely impossible that this operation should go on if the tight room is kept shut; for, were there any force capable of drawing constantly so much air out of it, it must soon be exhausted like the receiver of an air-pump, and no animal could live in it. Those therefore who stop every crevice in a room to prevent the admission of fresh air, and yet would have their chimney carry up the smoke, require inconsistencies and expect impossibilities. Yet, under this situation, I have seen the owner of a new house, in despair, and ready to sell it for much less than it cost, conceiving it uninhabitable, because not a chimney in any one of its rooms would carry off the smoke, unless a door or window were left open. Much expense has also been made, to alter and amend new chimneys which had really no fault; in one house particularly that I knew, of a nobleman in Westminster, that expense amounted to no less than three hundred pounds *after* his house had been, as he thought, finished and all charges paid. And after all, several of the alterations were ineffectual, for want of understanding the true principles.

Remedies. When you find on trial that opening the door or a window enables the chimney to carry up all the smoke, you may be sure that want of air *from without* was the cause of its smoking. I say *from without*, to guard you against a common mistake of those who may tell you the room is large, contains abundance of air, sufficient to supply any chimney, and therefore it cannot be that the chimney wants air. These reasoners are ignorant that the largeness

of a room, if tight, is in this case of small importance, since it cannot part with a chimney full of its air without occasioning so much vacuum; which it requires a great force to effect, and could not be borne, if effected.

It appearing plainly, then, that some of the outward air must be admitted, the question will be, how much is *absolutely necessary;* for you would avoid admitting more, as being contrary to one of your intentions in having a fire, viz. that of warming your room. To discover this quantity, shut the door gradually while a middling fire is burning, till you find that, before it is quite shut, the smoke begins to come out into the room, then open it a little till you perceive the smoke comes out no longer. There hold the door, and observe the width of the open crevice between the edge of the door and the rabbet it should shut into. Suppose the distance to be half an inch, and the door eight feet high, you find thence that your room requires an entrance for air equal in area to ninety-six half inches, or forty-eight square inches, or a passage of six inches by eight. This, however, is a large supposition, there being few chimneys that, having a moderate opening and a tolerable height of funnel, will not be satisfied with such a crevice of a quarter of an inch; and I have found a square of six by six, or thirty-six square inches, to be a pretty good medium, that will serve for most chimneys. High funnels, with small and low openings, may indeed be supplied through a less space, because, for reasons that will appear hereafter, the *force of levity*, if one may so speak, being greater in such funnels, the cool

air enters the room with greater velocity, and consequently more enters in the same time. This, however, has its limits, for experience shows that no increased velocity, so occasioned, has made the admission of air through the keyhole equal in quantity to that through an open door; though through the door the current moves slowly, and through the keyhole with great rapidity.

It remains then to be considered how and where this necessary quantity of air from without is to be admitted, so as to be least inconvenient. For, if at the door, left so much open, the air thence proceeds directly to the chimney, and in its way comes cold to your back and heels as you sit before your fire. If you keep the door shut and raise a little the sash of your window, you feel the same inconvenience. Various have been the contrivances to avoid this, such as bringing in fresh air through pipes in the jambs of the chimney, which, pointing upwards, should blow the smoke up the funnel; opening passages into the funnel above, to let in air for the same purpose. But these produce an effect contrary to that intended; for, as it is the constant current of air passing from the room *through the opening of the chimney* into the funnel, which prevents the smoke coming out into the room, if you supply the funnel by other means or in other ways with the air it wants, and especially if that air be cold, you diminish the force of that current, and the smoke in its effort to enter the room finds less resistance.

The wanted air must then *indispensably* be admitted into the room, to supply what goes off through

the opening of the chimney. M. Gauger, a very ingenious and intelligent French writer on the subject, proposes with judgment to admit it *above* the opening of the chimney; and to prevent inconvenience from its coldness, he directs its being made to pass in its entrance through winding cavities made behind the iron back and sides of the fireplace, and under the iron hearth-plate; in which cavities it will be warmed, and even heated, so as to contribute much, instead of cooling, to the warming of the room. This invention is excellent in itself, and may be used with advantage in building new houses; because the chimneys may then be so disposed as to admit conveniently the cold air to enter such passages; but in houses built without such views, the chimneys are often so situated as not to afford that convenience without great and expensive alterations. Easy and cheap methods, though not quite so perfect in themselves, are of more general utility; and such are the following.

In all rooms where there is a fire, the body of air warmed and rarefied before the chimney is continually changing place, and making room for other air that is to be warmed in its turn. Part of it enters and goes up the chimney, and the rest rises and takes place near the ceiling. If the room be lofty, the warm air remains above our heads as long as it continues warm, and we are little benefited by it, because it does not descend till it is cooler. Few can imagine the difference of climate between the upper and lower parts of such a room, who have not tried it by the thermometer, or by going up a ladder till

their heads are near the ceiling. It is then among this warm air that the wanted quantity of outward air is best admitted, with which being mixed, its coldness is abated, and its inconvenience diminished so as to become scarce observable. This may be easily done, by drawing down about an inch the upper sash of a window; or, if not movable, by cutting such a crevice through its frame; in both which cases it will be well to place a thin shelf of the length, to conceal the opening, and sloping upwards to direct the entering air horizontally along and under the ceiling. In some houses the air may be admitted by such a crevice made in the wainscot, cornice, or plastering, near the ceiling and over the opening of the chimney. This, if practicable, is to be chosen because the entering cold air will there meet with the warmest rising air from before the fire, and be soonest tempered by the mixture. The same kind of shelf should also be placed here. Another way, and not a very difficult one, is to take out an upper pane of glass in one of your sashes, set in a tin frame (Plate, Fig. 2) giving it two springing angular sides, and then replacing it with hinges below on which it may be turned to open more or less above. It will then have the appearance of an internal skylight. By drawing this pane in, more or less, you may admit what air you find necessary. Its position will naturally throw that air up and along the ceiling. This is what is called in France a *Was-ist-das?* As this is a German question, the invention is probably of that nation, and takes its name from the frequent asking of that question when it first appeared. In

England some have of late years cut a round hole about five inches diameter in a pane of the sash, and placed against it a circular plate of tin hung on an axis, and cut into vanes, which, being separately bent a little obliquely, are acted upon by the entering air, so as to force the plate continually round like the vanes of a windmill. This admits the outward air, and by the continual whirling of the vanes does in some degree disperse it. The noise, only, is a little inconvenient.

2. A second cause of the smoking of chimneys is, *their openings in the room being too large;* that is, too wide, too high, or both. Architects in general have no other ideas of proportion in the opening of a chimney than what relates to symmetry and beauty, respecting the dimensions of the room [1]; while its true proportion, respecting its function and utility, depends on quite other principles, and they might as properly proportion the step in a staircase to the height of a story instead of the natural elevation of men's legs in mounting. The proportion then to be regarded is what relates to the height of the funnel. For as the funnels in the different stories of a house are necessarily of different heights or lengths, that from the lowest floor being the highest or longest, and those of the other floors shorter and shorter, till we come to those in the garrets, which are of course the shortest; and the force of draft being, as already said, in proportion to the height of funnel filled with rarefied air; and a current of air from the room into the chimney, sufficient to fill the opening, being

[1] See Notes at the end of the letter, No. I.

necessary to oppose and prevent the smoke coming out into the room; it follows that the openings of the longest funnels may be larger, and that those of the shorter funnels should be smaller. For if there be a larger opening to a chimney that does not draw strongly, the funnel may happen to be furnished with the air it demands by a partial current entering on one side of the opening, and, leaving the other side free of any opposing current, may permit the smoke to issue there into the room. Much, too, of the force of draft in a funnel depends on the degree of rarefaction in the air it contains, and that depends on the nearness to the fire of its passage in entering the funnel. If it can enter far from the fire on each side, or far above the fire, in a wide or high opening, it receives little heat in passing by the fire, and the contents of the funnel are by that means less different in levity from the surrounding atmosphere, and its force in drawing consequently weaker. Hence, if too large an opening be given to chimneys in upper rooms, those rooms will be smoky; on the other hand, if too small openings be given to chimneys in the lower rooms, the entering air, operating too directly and violently on the fire, and afterwards strengthening the draft as it ascends the funnel, will consume the fuel too rapidly.

Remedy. As different circumstances frequently mix themselves in these matters, it is difficult to give precise dimensions for the openings of all chimneys. Our fathers made them generally much too large; we have lessened them; but they are often still of greater dimension than they should be, the human

will be content always with the best form of a chimney. And there are some, I know, so bigoted to the fancy of a large, noble opening, that rather than change it, they would submit to have damaged furniture, sore eyes, and skins almost smoked to bacon.

3. Another cause of smoky chimneys is *too short a funnel.* This happens necessarily in some cases, as where a chimney is required in a low building; for, if the funnel be raised high above the roof, in order to strengthen its draft, it is then in danger of being blown down, and crushing the roof in its fall.

Remedies. Contract the opening of the chimney, so as to oblige all the entering air to pass through or very near the fire; whereby it will be more heated and rarefied, the funnel itself be more warmed, and its contents have more of what may be called the force of levity, so as to rise strongly and maintain a good draft at the opening.

Or you may in some cases, to advantage, build additional stories over the low building, which will support a high funnel.

If the low building be used as a kitchen, and a contraction of the opening therefore inconvenient, a large one being necessary, at least when there are great dinners, for the free management of so many cooking utensils; in such case, I would advise the building of two more funnels joining to the first, and having three moderate openings, one to each funnel, instead of one large one. When there is occasion to use but one, the other two may be kept shut by sliding plates, hereafter to be described [1]; and two

[1] See Notes at the end of the letter, No. II.

or all of them may be used together when wanted. This will indeed be an expense, but not a useless one, since your cooks will work with more comfort, see better than in a smoky kitchen what they are about, your victuals will be cleaner dressed, and not taste of smoke, as is often the case; and, to render the effect more certain, a stack of three funnels may be safely built higher above the roof than a single funnel.

The case of too short a funnel is more general than would be imagined, and often found where one would not expect it. For it is not uncommon, in ill contrived buildings, instead of having a funnel for each room or fireplace, to bend and turn the funnel of an upper room so as to make it enter the side of another funnel that comes from below. By this means the upper-room funnel is made short of course, since its length can only be reckoned from the place where it enters the lower-room funnel; and that funnel is also shortened by all the distance between the entrance of the second funnel and the top of the stack; for all that part being readily supplied with air through the second funnel, adds no strength to the draft, especially as the air is cold when there is no fire in the second chimney. The only easy remedy here is to keep the opening shut of that funnel in which there is no fire.

4. Another very common cause of the smoking of chimneys is *their overpowering one another*. For instance, if there be two chimneys in one large room, and you make fires in both of them, the doors and windows close shut, you will find that the greater and stronger fire shall overpower the weaker, and draw

air down its funnel to supply its own demand; which air descending in the weaker funnel, will drive down its smoke, and force it into the room. If, instead of being in one room, the two chimneys are in two different rooms, communicating by a door, the case is the same whenever that door is open. In a very tight house, I have known a kitchen chimney on the lowest floor, when it had a great fire in it, overpower any other chimney in the house, and draw air and smoke into the room, as often as the door was opened communicating with the staircase.

Remedy. Take care that every room has the means of supplying itself from without, with the air its chimney may require, so that no one of them may be obliged to borrow from another, nor under the necessity of lending. A variety of these means have been already described.

5. Another cause of smoking is, *when the tops of chimneys are commanded by higher buildings, or by a hill*, so that the wind, blowing over such eminences, falls like water over a dam, sometimes almost perpendicularly on the tops of the chimneys that lie in its way, and beats down the smoke contained in them.

Remedy. That commonly applied to this case is a turncap made of tin or plate iron, covering the chimney above and on three sides, open on one side, turning on a spindle, and which, being guided or governed by a vane, always presents its back to the current. This, I believe, may be generally effectual, though not certain, as there may be cases in which it will not succeed. Raising your funnels, if practicable, so as their tops may be higher, or at least equal

with the commanding eminence, is more to be depended on. But the turning cap, being easier and cheaper, should first be tried. If obliged to build in such a situation, I would choose to place my doors on the side next the hill, and the backs of my chimneys on the farthest side; for then the column of air falling over the eminence, and of course pressing on that below and forcing it to enter the doors, or *Wasist-dases* on the side, would tend to balance the pressure down the chimneys, and leave the funnels more free in the exercise of their functions.

6. There is another case of command, the reverse of that last mentioned. It is where the commanding eminence is farther from the wind than the chimney commanded. To explain this a figure may be necessary. Suppose then a building whose side *A* happens to be exposed to the wind, and forms a kind of dam against its progress. (Plate, Fig. 3.) The air, obstructed by the dam, will, like water, press and search for passages through it; and finding the top of the chimney *B*, below the top of the dam, it will force itself down the funnel, in order to get through by some door or window open on the other side of the building. And if there be a fire in such chimney, its smoke is of course beat down, and fills the room.

Remedy. I know of but one, which is to raise such funnel higher than the roof, supporting it, if necessary, by iron bars. For a turncap in this case has no effect, the dammed up air pressing down through it in whatever position the wind may have placed its opening.

I know a city in which many houses are rendered

smoky by this operation. For their kitchens being built behind, and connected by a passage with the houses, and the tops of the kitchen chimneys lower than the top of the houses, the whole side of a street, when the wind blows against its back, forms such a dam as above described; and the wind, so obstructed, forces down those kitchen chimneys (especially when they have but weak fires in them) to pass through the passage and house into the street. Kitchen chimneys, so formed and situated, have another inconvenience. In summer, if you open your upper room windows for air, a light breeze blowing over your kitchen chimney towards the house, though not strong enough to force down its smoke, as aforesaid, is sufficient to waft it into your windows, and fill the rooms with it; which, besides the disagreeableness, damages your furniture.

7. Chimneys, otherwise drawing well, are sometimes made to smoke by *the improper and inconvenient situation of a door*. When the door and chimney are on the same side of the room, as in the figure, if the door *A*, being in the corner, is made to open against the wall (Plate, Fig. 4), which is common, as being there, when open, more out of the way, it follows that, when the door is only opened in part, a current of air rushing in, passes along the wall into and across the opening of the chimney *B*, and flirts some of the smoke out into the room. This happens more certainly when the door is shutting, for then the force of the current is augmented, and becomes very inconvenient to those who, warming themselves by the fire, happen to sit in its way.

The *remedies* are obvious and easy. Either put an intervening screen from the wall round great part of the fireplace; or, which is perhaps preferable, shift the hinges of your door, so as it may open the other way, and, when open, throw the air along the other wall.

8. A room that has no fire in its chimney is sometimes filled with *smoke, which is received at the top of its funnel, and descends into the room.* In a former paper [1] I have already explained the descending currents of air in cold funnels; it may not be amiss, however, to repeat here, that funnels without fires, have an effect, according to their degree of coldness or warmth, on the air that happens to be contained in them. The surrounding atmosphere is frequently changing its temperature; but stacks of funnels, covered from winds and sun by the house that contains them, retain a more equal temperature. If, after a warm season, the outward air suddenly grows cold, the empty warm funnels begin to draw strongly upward; that is, they rarefy the air contained in them, which, of course, rises, cooler air enters below to supply its place, is rarefied in its turn, and rises; and this operation continues till the funnel grows cooler, or the outward air warmer, or both, when the motion ceases. On the other hand, if, after a cold season, the outward air suddenly grows warm and, of course, lighter, the air contained in the cool funnels, being heavier, descends into the room; and the warmer air which enters their tops, being cooled in its turn and made heavier, continues to descend; and this opera-

[1] See Notes at the end of the letter, No. II.

tion goes on, till the funnels are warmed by the passing of warm air through them, or the air itself grows cooler. When the temperature of the air and of the funnels is nearly equal, the difference of warmth in the air between day and night is sufficient to produce these currents, the air will begin to ascend the funnels as the cool of the evening comes on, and this current will continue till perhaps nine or ten o'clock the next morning, when it begins to hesitate; and, as the heat of the day approaches, it sets downwards, and continues so till towards evening, when it again hesitates for some time, and then goes upwards constantly during the night, as before mentioned. Now when smoke, issuing from the tops of neighboring funnels, passes over the tops of funnels which are at the time drawing downwards, as they often are in the middle part of the day, such smoke is, of necessity, drawn into these funnels, and descends with the air into the chamber.

The *remedy* is to have a sliding plate, hereafter described,[1] that will shut perfectly the offending funnel.

9. Chimneys which generally draw well do nevertheless sometimes give smoke into the rooms, *it being driven down by strong winds passing over the tops of their funnels*, though not descending from any commanding eminence. This case is most frequent where the funnel is short, and the opening turned from the wind. It is the more grievous when it happens to be a cold wind that produces the effect, because when you most want your fire you are sometimes obliged to extinguish it. To understand

[1] See Notes at the end of the letter, No. II.

this, it may be considered that the rising light air, to obtain a free issue from the funnel, must push out of its way or oblige the air that is over it to rise. In a time of calm or of little wind this is done visibly, for we see the smoke that is brought up by that air rise in a column above the chimney. But when a violent current of air, that is, a strong wind, passes over the top of a chimney, its particles have received so much force, which keeps them in a horizontal direction, and follow each other so rapidly, that the rising light air has not strength sufficient to oblige them to quit that direction and move upwards to permit its issue. Add to this that some of the current passing over that side of the funnel which it first meets with, viz., at *A* (Plate, Fig. 5), having been compressed by the resistance of the funnel, may expand itself over the flue, and strike the interior opposite side at *B*, from whence it may be reflected downwards and from side to side in the direction of the pricked lines *c c c*.

Remedies. In some places, particularly in Venice, where they have not stacks of chimneys but single flues, the custom is to open or widen the top of the flue, rounding in the true form of a funnel (Plate, Fig. 6), which some think may prevent the effect just mentioned, for that the wind blowing over one of the edges into the funnel, may be slanted out again on the other side by its form. I have had no experience of this; but I have lived in a windy country, where the contrary is practised, the tops of the flues being *narrowed* inwards, so as to form a slit for the issue of the smoke, long as the breadth of the funnel, and

only four inches wide. This seems to have been contrived on a supposition that the entry of the wind would thereby be obstructed; and perhaps it might have been imagined that the whole force of the rising warm air being condensed, as it were, in the narrow opening, would thereby be strengthened, so as to overcome the resistance of the wind. This however did not always succeed, for when the wind was at northeast, and blew fresh, the smoke was forced down by fits into the room I commonly sat in, so as to oblige me to shift the fire into another. The position of the slit of this funnel was indeed northeast and southwest. Perhaps if it had lain across the wind, the effect might have been different. But on this I can give no certainty. It seems a matter proper to be referred to experiment. Possibly a turncap might have been serviceable, but it was not tried.

Chimneys have not been long in use in England. I formerly saw a book printed in the time of Queen Elizabeth, which remarked the then modern improvements of living, and mentioned, among others, the convenience of chimneys. "Our forefathers," said the author, "had no chimneys. There was in each dwelling-house only one place for a fire, and the smoke went out through a hole in the roof; but now there is scarce a gentleman's house in England that has not at least one chimney in it." When there was but one chimney, its top might then be opened as a funnel, and perhaps, borrowing the form from the Venetians, it was then the flue of a chimney got that name. Such is now the growth of luxury, that in

both England and France we must have a chimney for every room, and in some houses every possessor of a chamber, and almost every servant, will have a fire; so that the flues being necessarily built in stacks, the opening of each as a funnel is impracticable. This change of manners soon consumed the firewood of England, and will soon render fuel extremely scarce and dear in France, if the use of coals be not introduced in the latter kingdom as it has been in the former, where it at first met with opposition; for there is extant in the records of one of Queen Elizabeth's Parliaments a motion made by a member, reciting, "That many dyers, brewers, smiths, and other artificers of London had of late taken to the use of pit-coal for their fires, instead of wood, which filled the air with noxious vapors and smoke, very prejudicial to the health, particularly of persons coming out of the country"; and therefore moving "that a law might pass to prohibit the use of such fuel (at least during the session of Parliament) by those artificers." It seems it was not then commonly used in private houses. Its supposed unwholesomeness was an objection. Luckily the inhabitants of London have got over that objection, and now think it rather contributes to render their air salubrious, as they have had no general pestilential disorder since the general use of coals, when, before it, such were frequent. Paris still burns wood at an enormous expense continually augmenting, the inhabitants having still that prejudice to overcome. In Germany, you are happy in the use of stoves, which save fuel wonderfully; your people are very ingenious in the management

of fire; but they may still learn something in that art from the Chinese,[1] whose country being greatly populous and fully cultivated, has little room left for the growth of wood, and, having not much other fuel that is good, they have been forced upon many inventions, during a course of ages, for making a little fire go as far as possible.

I have thus gone through all the common causes of the smoking of chimneys, that I can at present recollect as having fallen under my observation; communicating the remedies that I have known successfully used for the different cases, together with the principles on which both the disease and the remedy depend, and confessing my ignorance wherever I have been sensible of it. You will do well, if you publish, as you propose, this letter, to add in notes, or as you please, such observations as may have occurred to your attentive mind; and, if other philosophers will do the same, this part of science, though humble, yet of great utility, may in time be perfected. For many years past I have rarely met with a case of smoky chimney which has not been solvable on these principles, and cured by these remedies, where people have been willing to apply them; which is indeed not always the case; for many have prejudices in favor of the nostrum of pretended chimney doctors and fumists, and some have conceits and fancies of their own, which they rather choose to try, than to lengthen a funnel, alter the size of an opening, or admit air into a room, however necessary; for some are as much afraid of fresh air as persons in the

[1] See Notes at the end of the letter, No. III.

hydrophobia are of fresh water. I myself had formerly this prejudice, this *aërophobia*, as I now account it; and, dreading the supposed dangerous effects of cool air, I considered it as an enemy, and closed with extreme care every crevice in the rooms I inhabited.

Experience has convinced me of my error. I now look upon fresh air as a friend; I even sleep with an open window. I am persuaded that no common air from without is so unwholesome as the air within a close room, that has been often breathed and not changed. Moist air, too, which formerly I thought pernicious, gives me now no apprehensions; for, considering that no dampness of air applied to the outside of my skin can be equal to what is applied to and touches it within, my whole body being full of moisture, and finding that I can lie two hours in a bath twice a week, covered with water, which certainly is much damper than any air can be, and this for years together, without catching cold, or being in any manner disordered by it, I no longer dread mere moisture, either in air or in sheets or shirts; and I find it of importance to the happiness of life, the being freed from vain terrors, especially of objects that we are every day exposed inevitably to meet with. You physicians have of late happily discovered, after a contrary opinion had prevailed some ages, that fresh and cool air does good to persons in the smallpox and other fevers. It is to be hoped that in another century or two we may all find out that it is not bad even for people in health. And, as to moist air, here I am at this present writing in a ship with above forty persons,

who have had no other but moist air to breathe for six weeks past; every thing we touch is damp, and nothing dries, yet we are all as healthy as we should be on the mountains of Switzerland, whose inhabitants are not more so than those of Bermuda or St. Helena, islands on whose rocks the waves are dashed into millions of particles, which fill the air with damp, but produce no diseases, the moisture being pure, unmixed with the poisonous vapors arising from putrid marshes and stagnant pools, in which many insects die and corrupt the water. These places only, in my opinion (which however I submit to yours) afford unwholesome air; and that it is not the mere water contained in damp air, but the volatile particles or corrupted animal matter mixed with that water, which renders such air pernicious to those who breathe it. And I imagine it a cause of the same kind that renders the air in close rooms, where the perspirable matter is breathed over and over again by a number of assembled people, so hurtful to health. After being in such a situation, many find themselves affected by that *febricula*, which the English alone call *a cold*, and, perhaps from the name, imagine that they caught the malady by *going out* of the room, when it was in fact by being [in] it.

You begin to think that I wander from my subject, and go out of my depth. So I return again to my chimneys.

We have of late many lecturers in experimental philosophy. I have wished that some of them would study this branch of that science, and give experiments in it as a part of their lectures. The addition

to their present apparatus need not be very expensive. A number of little representations of rooms composed each of five panes of sash glass framed in wood at the corners, with proportionable doors, and movable glass chimneys, with openings of different sizes, and different lengths of funnel, and some of the rooms so contrived as to communicate on occasion with others, so as to form different combinations, and exemplify different cases; with quantities of green wax taper cut into pieces of an inch and a half, sixteen of which stuck together in a square, and lit, would make a strong fire for a little glass chimney, and blown out would continue to burn and give smoke as long as desired. With such an apparatus all the operations of smoke and rarefied air in rooms and chimneys might be seen through their transparent sides; and the effects of winds on chimneys, commanded or otherwise, might be shown by letting the entering air blow upon them through an opened window of the lecturer's chamber, where it would be constant while he kept a good fire in his chimney. By the help of such lectures our fumists would become better instructed. At present they have generally but one remedy, which perhaps they have known effectual in some one case of smoky chimneys, and they apply that indiscriminately to all the other cases without success,—but not without expense to their employers.

With all the science, however, that a man shall suppose himself possessed of in this article, he may sometimes meet with cases that shall puzzle him. I once lodged in a house at London, which, in a little

room, had a single chimney and funnel. The opening was very small, yet it did not keep in the smoke, and all attempts to have a fire in this room were fruitless. I could not imagine the reason, till at length, observing that the chamber over it, which had no fireplace in it, was always filled with smoke when a fire was kindled below, and that the smoke came through the cracks and crevices of the wainscot, I had the wainscot taken down, and discovered that the funnel, which went up behind it, had a crack many feet in length, and wide enough to admit my arm, a breach very dangerous with regard to fire, and occasioned probably by an apparent irregular settling of one side of the house. The air entering this breach freely, destroyed the drawing force of of the funnel. The remedy would have been, filling up the breach, or rather rebuilding the funnel; but the landlord rather chose to stop up the chimney.

Another puzzling case I met with at a friend's country house near London. His best room had a chimney, in which, he told me, he never could have a fire, for all the smoke came out into the room. I flattered myself I could easily find the cause and prescribe the cure. I had a fire made there, and found it as he said. I opened the door, and perceived it was not the want of air. I made a temporary contraction of the opening of the chimney, and found that it was not its being too large that caused the smoke to issue. I went out and looked up at the top of the chimney; its funnel was joined in the same stack with others, some of them shorter, that drew very well, and I saw nothing to prevent its

doing the same. In fine, after every other examination I could think of, I was obliged to own the insufficiency of my skill. But my friend, who made no pretension to such kind of knowledge, afterwards discovered the cause himself. He got to the top of the funnel by a ladder, and looking down, found it filled with twigs and straw cemented by earth and lined with feathers. It seems the house, after being built, had stood empty some years before he occupied it; and he concluded that some large birds had taken the advantage of its retired situation to make their nest there. The rubbish, considerable in quantity, being removed, and the funnel cleared, the chimney drew well and gave satisfaction.

In general, smoke is a very tractable thing, easily governed and directed when one knows the principles and is well informed of the circumstances. You know I made it *descend* in my Pennsylvania stove. I formerly had a more simple construction, in which the same effect was produced, but visible to the eye, (Plate, Fig. 7.) It was composed of two plates, *A B* and *C D*, placed as in the figure. The lower plate, *A B*, rested with its edge in the angle made by the hearth with the back of the chimney. The upper plate was fixed to the breast, and lapped over the lower about six inches, leaving a space of four inches wide and the length of the plates (near two feet) between them. Every other passage of air into the funnel was well stopped. When, therefore, a fire was made at *E*, for the first time with charcoal, till the air in the funnel was a little heated through the plates, and then wood laid on, the smoke would rise

to *A*, turn over the edge of that plate, descend to *D*, then turn under the edge of the upper plate, and go up the chimney. It was pretty to see, but of no great use. Placing therefore the under plate in a higher situation, I removed the upper plate, *C D*, and placed it perpendicularly (Plate, Fig. 8), so that the upper edge of the lower plate, *A B*, came within about three inches of it, and might be pushed farther from it, or suffered to come nearer to it, by a movable wedge between them. The flame then ascending from the fire at *E*, was carried to strike the upper plate, made it very hot, and its heat rose and spread with the rarefied air into the room.

I believe you have seen in use with me the contrivance of a sliding plate over the fire, seemingly placed to oppose the rising of the smoke, leaving but a small passage for it between the edge of the plate and the back of the chimney. It is particularly described and its uses explained in my former printed letter, and I mention it here only as another instance of the tractability of smoke.[1]

What is called the Staffordshire chimney affords an example of the same kind. The opening of the chimney is bricked up even with the fore edge of its jambs, leaving open only a passage over the grate of the same width, and perhaps eight inches high. The grate consists of semicircular bars, their upper bar of the greatest diameter, the others under it smaller and smaller, so that it has the appearance of half a round basket. It is, with the coals it contains, wholly without the wall that shuts up the

[1] See Notes at the end of the letter, No. II.

chimney, yet the smoke bends and enters the passage above it, the draft being strong, because no air can enter that is not obliged to pass near or through the fire, so that all that the funnel is filled with is much heated, and, of course, much rarefied.

Much more of the prosperity of a winter country depends on the plenty and cheapness of fuel than is generally imagined. In travelling I have observed that, in those parts where the inhabitants can have neither wood, nor coal, nor turf, but at excessive prices, the working-people live in miserable hovels, are ragged, and have nothing comfortable about them. But when fuel is cheap (or where they have the art of managing it to advantage), they are well furnished with necessaries and have decent habitations. The obvious reason is that the working hours of such people are the profitable hours, and they who cannot afford sufficient fuel have fewer such hours in the twenty-four than those who have it cheap and plenty; for much of the domestic work of poor women, such as spinning, sewing, knitting; and of the men, in those manufactures that require little bodily exercise, cannot well be performed where the fingers are numbed with cold. Those people, therefore, in cold weather, are induced to go to bed sooner and lie longer in a morning than they would do if they could have good fires or warm stoves to sit by; and their hours of work are not sufficient to produce the means of comfortable subsistence. Those public works, therefore, such as roads, canals, etc., by which fuel may be brought cheap into such countries from distant places, are of great utility; and those

who promote them may be reckoned among the benefactors of mankind.

I have great pleasure in having thus complied with your request, and in the reflection that the friendship you honor me with, and in which I have ever been so happy, has continued so many years without the smallest interruption. Our distance from each other is now augmented, and nature must soon put an end to the possibility of my continuing our correspondence; but, if consciousness and memory remain in a future state, my esteem and respect for you, my dear friend, will be everlasting.

B. FRANKLIN.

NOTES TO THE LETTER UPON CHIMNEYS

No. I

The latest work on architecture that I have seen is that entitled *Nutshells*, which appears to be written by a very ingenious man, and contains a table of the proportions of the openings of chimneys; but they relate solely to the proportions he gives his rooms, without the smallest regard to the funnels. And he remarks, respecting those proportions, that they are similar to the harmonic divisions of a monochord.[1] He does not indeed lay much stress on this,

[1] "It may be just remarked here, that upon comparing these proportions with those arising from the common divisions of the monochord, it happens that the first answers to unisons; and, although the second is a discord, the third answers to the third minor, the fourth to the third major, the fifth to the fourth, the sixth to the fifth, and the seventh to the octave."—*Nutshells*, p. 85.

but it shows that we like the appearance of principles, and where we have not true ones, we have some satisfaction in producing such as are imaginary.

No. II

The description of the sliding plates here promised, and which have been since brought into use under various names, with some immaterial changes, is contained in a former letter to James Bowdoin, as follows:

LONDON, 2 December, 1758.

DEAR SIR:—I have executed here an easy, simple contrivance, that I have long since had in speculation, for keeping rooms warmer in cold weather than they generally are, and with less fire. It is this. The opening of the chimney is contracted, by brickwork faced with marble slabs, to about two feet between the jambs, and the breast brought down to within about three feet of the hearth. An iron frame is placed just under the breast, and extending quite to the back of the chimney, so that a plate of the same metal may slide horizontally backwards and forwards in the grooves on each side of the frame. This plate is just so large as to fill the whole space, and shut the chimney entirely when thrust quite in, which is convenient when there is no fire. Drawing it out, so as to leave a space between its further edge and the back, of about two inches; this space is sufficient for the smoke to pass, and so large a part of the funnel being stopped by the rest of the

plate, the passage of warm air out of the room, up the chimney, is obstructed and retarded, and by that means much cold air is prevented from coming in through crevices to supply its place.

This effect is made manifest in three ways. First, when the fire burns briskly in cold weather, the howling or whistling noise made by the wind, as it enters the room through the crevices, when the chimney is open as usual, ceases as soon as the plate is slid in to its proper distance. Secondly, opening the door of the room about half an inch, and holding your hand against the opening, near the top of the door, you feel the cold air coming in against your hand, but weakly, if the plate be in. Let another person suddenly draw it out, so as to let the air of the room go up the chimney, with its usual freedom where chimneys are open, and you immediately feel the cold air rushing in strongly. Thirdly, if something be set against the door, just sufficient, when the plate is in, to keep the door nearly shut, by resisting the pressure of the air that would force it open; then, when the plate is drawn out, the door will be forced open by the increased pressure of the outward cold air endeavoring to get in to supply the place of the warm air, that now passes out of the room to go up the chimney. In our common open chimneys, half the fuel is wasted, and its effect lost, the air it has warmed being immediately drawn off. Several of my acquaintance, having seen this simple machine in my room, have imitated it at their own houses, and it seems likely to become pretty common. I describe it thus particularly to you, because

I think it would be useful in Boston, where firing is often dear.

Mentioning chimneys puts me in mind of a property I formerly had occasion to observe in them, which I have not found taken notice of by others; it is, that in the summer-time, when no fire is made in the chimneys, there is, nevertheless, a regular draft of air through them, continually passing upwards, from about five or six o'clock in the afternoon till eight or nine o'clock the next morning, when the current begins to slacken and hesitate a little for about half an hour, and then sets as strongly down again, which it continues to do till towards five in the afternoon, then slackens and hesitates as before, going sometimes a little up, then a little down, till, in about a half an hour, it gets into a steady upward current for the night, which continues till eight or nine the next day; the hours varying a little as the days lengthen and shorten, and sometimes varying after from sudden changes in the weather; as, if, after being long warm, it should begin to grow cool about noon, while air was coming down the chimney, the current will then change earlier than the usual hour, etc.

This property in chimneys I imagine we might turn to some account, and render improper, for the future, the old saying, *as useless as a chimney in summer*. If the opening of the chimney, from the breastwork down to the hearth, be closed by a slight movable frame or two, in the manner of doors covered with canvas, that will let the air through, but keep out the flies; and another little frame set within

upon the hearth, with hooks on which to hang joints of meat, fowls, etc., wrapped well in wet linen cloths, three or four fold, I am confident that, if the linen is kept wet by sprinkling it once a day, the meat would be so cooled by the evaporation, carried on continually by means of the passing air, that it would keep a week or more in the hottest weather. Butter and milk might likewise be kept cool in vessels or bottles covered with wet cloths. A shallow tray, or keeler, should be under the frame to receive any water that might drip from the wetted cloths. I think, too, that this property of chimneys might, by means of smokejack vanes, be applied to some mechanical purpose, where a small but pretty constant power only is wanted.

If you would have my opinion of the cause of this changing current of air in chimneys, it is, in short, as follows: In summer time there is generally a great difference in the warmth of the air at midday and midnight, and, of course, a difference of specific gravity in the air, as, the more it is warmed, the more it is rarefied. The funnel of a chimney, being for the most part surrounded by the house, is protected, in a great measure, from the direct action of the sun's rays, and also from the coldness of the night air. It thence preserves a middle temperature between the heat of the day and the coldness of the night. This middle temperature it communicates to the air contained in it. If the state of the outward air be cooler than that in the funnel of the chimney, it will, by being heavier, force it to rise, and go out at the top. What supplies its place from below,

being warmed, in its turn, by the warmer funnel, is likewise forced up by the colder and weightier air below, and so the current is continued till the next day, when the sun gradually changes the state of the outward air, makes it first as warm as the funnel of the chimney can make it (when the current begins to hesitate), and afterwards warmer. Then the funnel, being cooler than the air that comes into it, cools the air, makes it heavier than the outward air, and of course it descends; and what succeeds it from above being cooled in its turn, the descending current continues till towards evening, when it again hesitates and changes its course, from the change of warmth in the outward air and the nearly remaining same middle temperature in the funnel.

Upon this principle, if a house were built behind Beacon Hill, an adit carried from one of the doors into the hill horizontally, till it meet with a perpendicular shaft sunk from its top, it seems probable to me that those who lived in the house would constantly, in the heat even of the calmest day, have as much cool air passing through the house as they should choose; and the same, though reversed in its current, during the stillest night.

I think, too, this property might be made of use to miners; as, where several shafts or pits are sunk perpendicularly into the earth, communicating at bottom by horizontal passages, which is a common case, if a chimney of thirty or forty feet high were built over one of the shafts, or so near the shaft that the chimney might communicate with the top of the shaft, all air being excluded but what should pass up

or down by the shaft, a constant change of air would, by this means, be produced in the passages below, tending to secure the workmen from those damps which so frequently incommode them. For the fresh air would be almost always going down the open shaft, to go up the chimney, or down the chimney, to go up the shaft. Let me add one observation more, which is, that, if that part of the funnel of a chimney which appears above the roof of a house be pretty long, and have three of its sides exposed to the heat of the sun successively, viz. when he is in the east, in the south, and in the west, while the north side is sheltered by the building from the cool northerly winds; such a chimney will often be so heated by the sun as to continue the draft strongly upwards, through the whole twenty-four hours, and often for many days together. If the outside of such a chimney be painted black, the effect will be still greater and the current stronger.

No. III

It is said the northern Chinese have a method of warming their ground floors, which is ingenious. Those floors are made of tiles, a foot square and two inches thick, their corners being supported by bricks set on end, that are a foot long and four inches square; the tiles, too, join into each other, by ridges and hollows along their sides. This forms a hollow under the whole floor, which on one side of the house has an opening into the air, where a fire is made, and it has a funnel rising from the other side to carry off the smoke. The fuel is a sulphurous pit coal, the

smell of which in the room is thus avoided, while the floor, and of course the room is well warmed. But, as the underside of the floor must grow foul with soot, and a thick coat of soot prevents much of the direct application of the hot air to the tiles, I conceive that burning the smoke, by obliging it to descend through red coals, would in this construction be very advantageous, as more heat would be given by the flame than by the smoke, and the floor being thereby kept free from soot would be more heated with less fire. For this purpose I would propose erecting the funnel close to the grate, so as to have only an iron plate between the fire and the funnel, through which plate, the air in the funnel being heated, it will be sure to draw well, and force the smoke to descend, as in Plate II., Fig. 9, where *A* is the funnel or chimney, *B* the grate on which the fire is placed, *C* one of the apertures through which the descending smoke is drawn into the channel *D* of Figure 10, along which channel it is conveyed by a circuitous route, as designated by the arrows, until it arrives at the small aperture *E*, through which it enters the funnel *F*. *G*, in both figures, is the iron plate against which the fire is made, which, being heated thereby, will rarefy the air in that part of the funnel, and cause the smoke to ascend rapidly. The flame thus dividing from the grate to the right and left, and turning in passages, disposed, as in Figure 10, so as that every part of the floor may be visited by it before it enters the funnel *F*, by the two passages *E E*, very little of the heat will be lost, and a winter room thus rendered very comfortable.

No. IV

Page 148. *Few can imagine*, etc. It is said the Icelanders have very little fuel, chiefly drift wood that comes upon their coast. To receive more advantage from its heat, they make their doors low, and have a stage round the room above the door, like a gallery, wherein the women can sit and work, the men read or write, etc. The roof being tight, the warm air is confined by it and kept from rising higher and escaping; and the cold air, which enters the house when the door is opened, cannot rise above the level of the top of the door, because it is heavier than the warm air above the door, and so those in the gallery are not incommoded by it. Some of our too lofty rooms might have a stage so constructed as to make a temporary gallery above, for the winter, to be taken away in summer. Sedentary people would find much comfort there in cold weather.

No. V

Page 170. *Where they have the art of managing it*, etc. In some houses of the lower people among the northern nations of Europe, and among the poorer sort of Germans in Pennsylvania, I have observed this construction, which appears very advantageous. (Plate, Fig. 11.) *A* is the kitchen with its chimney; *B*, an iron stove in the stove room. In a corner of the chimney is a hole through the back into the stove, to put in fuel, and another hole above it, to let the smoke of the stove come back into the chimney. As soon as the cooking is over, the brands

in the kitchen chimney are put through the hole to supply the stove, so that there is seldom more than one fire burning at a time. In the floor over the stove room is a small trap-door, to let the warm air rise occasionally into the chamber. Thus the whole house is warmed at little expense of wood, and the stove room kept constantly warm; so that in the coolest winter nights they can work late, and find the room still comfortable when they rise to work early. An English farmer in America, who makes great fires in large open chimneys, needs the constant employment of one man to cut and haul wood for supplying them; and the draft of cold air to them is so strong that the heels of his family are frozen, while they are scorching their faces; and the room is never warm, so that little sedentary work can be done by them in winter. The difference in this article alone of economy shall, in the course of years, enable the German to buy out the Englishman, and take possession of his plantation.

Miscellaneous Observations

Chimneys whose funnels go up in the north wall of a house, and are exposed to the north winds, are not so apt to draw well as those in a south wall, because, when rendered cold by those winds, they draw downwards.

Chimneys enclosed in the body of a house are better than those whose funnels are exposed in cold walls.

Chimneys in stacks are apt to draw better than

separate funnels, because the funnels that have constant fires in them warm the others, in some degree, that have none.

One of the funnels, in a house I once occupied, had a particular funnel joined to the south side of the stack, so that three of its sides were exposed to the sun in the course of the day, viz.: (Plate, Fig. 12) the east side *E* during the morning, the south side *S* in the middle part of the day, and the west side *W* during the afternoon, while its north side was sheltered by the stack from the cold winds. This funnel, which came from the ground floor, and had a considerable height above the roof, was constantly in a strong drawing state day and night, winter and summer.

Blacking of funnels exposed to the sun would probably make them draw still stronger.

In Paris I saw a fireplace so ingeniously contrived as to serve conveniently two rooms, a bedchamber and a study. The funnel over the fire was round. The fireplace was of cast-iron (Plate, Fig. 13), having an upright back *A*, and two horizontal semicircular plates *B C*, the whole so ordered as to turn on the pivots *D E*. The plate *B* always stopped that part of the round funnel that was next to the room without fire, while the other half of the funnel over the fire was always open. By this means a servant in the morning could make a fire on the hearth *C*, then in the study, without disturbing the master by going into his chamber; and the master, when he rose, could, with a touch of his foot, turn the chimney on its pivots, and bring the fire into his chamber, keep

it there as long as he wanted it, and turn it again, when he went out, into his study. The room which had no fire in it was also warmed by the heat coming through the back plate and spreading in the room, as it could not go up the chimney.

MCCCLXXIV

ADDRESS OF THE ASSEMBLY OF PENNSYLVANIA TO DR. FRANKLIN [1]

The representatives of the freemen of the Commonwealth of Pennsylvania, in General Assembly met, in the most affectionate manner congratulate you on your safe arrival in your country after so long an absence on the most important business. We likewise congratulate you on the firm establishment of the independence of America and the settlement of a general peace, after the interesting struggle in which we were so long engaged.

We are confident, sir, that we speak the sentiments of this whole country, when we say, that your services, in the public councils and negotiations, have not only merited the thanks of the present generation, but will be recorded in the pages of history, to your immortal honor. And it is particularly pleasing to us, that, while we are sitting as members of the Assembly of Pennsylvania, we have the

[1] On Dr. Franklin's return to his native country, from his long mission to France, he received congratulatory addresses from various public bodies. Some of these are here inserted, with his answers.

happiness of welcoming into the State a person who was so greatly instrumental in forming its free constitution.

May it please God to give you a serene and peaceful enjoyment of the evening of life, and a participation of that happiness you have been so instrumental in securing to others.

Signed by order of the House,

JOHN BAYARD, *Speaker.*

ASSEMBLY CHAMBERS, September 15, 1785.

DR. FRANKLIN'S ANSWER

MR. SPEAKER AND GENTLEMEN:—I am extremely happy to find by your friendly and affectionate address, that my endeavors to serve our country in the late important struggle have met with the approbation of so respectable a body as the representatives of the freemen of Pennsylvania. I esteem that approbation as one of the greatest honors of my life. I hope the peace with which God has been graciously pleased to bless us may be lasting, and that the free constitution we now enjoy may long contribute to promote our common felicity. The kind wishes of the General Assembly for my particular happiness affect me very sensibly, and I beg they would accept my thankful acknowledgments.

MCCCLXXV

ADDRESS OF THE PROVOST, VICE-PROVOST, AND PROFESSORS OF THE UNIVERSITY OF PENNSYLVANIA TO DR. FRANKLIN

HONORED SIR:—The Provost, Vice-Provost, and Professors of the University of Pennsylvania beg leave to congratulate you on your safe arrival in your native country, after having accomplished the duties of your exalted character with dignity and success.

While we participate in the general happiness of America, to the establishment of which your political abilities and patriotic exertions have so signally contributed, we feel a particular pleasure in paying our acknowledgments to the gentleman who first projected the liberal plan of the institution over which we have the honor to preside.

Not contented with enriching the world with the most important discoveries in natural philosophy, your benevolence and liberality of sentiment early engaged you to make provision for exciting a spirit of inquiry into the secret operations of nature, for exalting and refining the genius of America by the propagation of useful learning; and for qualifying many of her sons to make that illustrious figure which has commanded the esteem and admiration of the most polished nations of Europe.

Among the many benevolent projections, which have laid so ample a foundation for the esteem and gratitude of your native country, permit this seminary to reckon her first establishment, upon the solid

principles of equal liberty, as one of the most considerable and important. And now, when restored, through the influence of our happy Constitution, to her original broad and catholic bottom; when enriched by the protection of generous donations of a public-spirited and patriotic Assembly; and when flourishing under the countenance of the best friends of religion, learning, and liberty in the State; she cannot but promise herself the continued patronage of the evening of that life which divine Providence has so eminently distinguished.

May the same indulgent Providence yet continue your protracted life, enriched and crowned with the best of blessings, to nurse and cherish this favorite child of your youth; that the future sons of science in this western world may have additional reason to remember the name of FRANKLIN with gratitude and pleasure.

Signed, in the name and by order of the Faculty, by

JOHN EWING, *Provost.*

PHILADELPHIA, September 16, 1785.

DR. FRANKLIN'S ANSWER

I am greatly obliged, gentlemen, by your kind congratulations on my safe arrival.

It gives me extreme pleasure to find that seminaries of learning are increasing in America, and particularly that the University over which you preside continues to flourish. My best wishes will always attend it.

The instruction of youth is one of those employments which to the public are most useful; it ought, therefore, to be esteemed among the most honorable. Its successful exercise does not, however, always meet with the reward it merits, except in the satisfaction of having contributed to the forming of virtuous and able men for the service of their country.

MCCCLXXVI

TO JOHN JAY

PHILADELPHIA, 19 September, 1785.

SIR:—I have the honor to acquaint you that I left Paris the 12th of July, and, agreeably to the permission of Congress, am returned to my own country. Mr. Jefferson had recovered his health, and was much esteemed and respected there. Our joint letters have already informed you of our late proceedings, to which I have nothing to add except that the last act I did as Minister Plenipotentiary for making treaties, was to sign with him, two days before I came away, the treaty of friendship and commerce that had been agreed on with Prussia,[1] and which was to be carried to the Hague by Mr. Short, there to be signed by Baron Thulemeier on the part of the king, who, without the least hesitation, had approved and conceded to the new humane articles proposed by Congress. Mr. Short was also to call at London for the signature of Mr. Adams, who, I learned, when at Southampton, was well received at the British court.

[1] See this treaty at large in the public *Journals of Congress*, vol. iv., p. 639.

The Captain Lamb who in a letter of yours to Mr. Adams was said to be coming to us with instructions respecting Morocco had not appeared, nor had we heard any thing of him; so nothing had been done by us in that treaty.

I left the court of France in the same friendly disposition towards the United States that we have all along experienced, though concerned to find that our credit is not better supported in the payment of the interest money due on our loans, which, in case of another war, must be, they think, extremely prejudicial to us, and indeed may contribute to draw on a war the sooner, by affording our enemies the encouraging confidence that those who take so little care to pay will not again find it easy to borrow. I received from the king, at my departure, the present of his picture set round with diamonds, usually given to ministers plenipotentiary who have signed any treaties with that court; and it is at the disposition of Congress, to whom be pleased to present my dutiful respects. I am, with great esteem and regard, etc., B. FRANKLIN.

P. S.—Not caring to trust them to a common conveyance I send by my late secretary, who will have the honor of delivering them to you, all the original treaties I have been concerned in negotiating, that were completed. Those with Portugal and Denmark continue in suspense.[1]

[1] Dr. Franklin left Passy on the 12th of July, and proceeded by way of Havre to Southampton in England. He sailed from Cowes on the 28th of July, and arrived in Philadelphia on the 14th of September. M. Houdon was a passenger in the same ship.

MCCCLXXVII

TO GEORGE WASHINGTON

PHILADELPHIA, 20 September, 1785.

DEAR SIR:—I am just arrived from a country where the reputation of General Washington runs very high, and where everybody wishes to see him in person; but, being told that it is not likely he ever will favor them with a visit, they hope at least for a sight of his perfect resemblance by means of their principal statuary, M. Houdon,[1] whom Mr. Jefferson and myself agreed with to come over for the purpose of taking a bust, in order to make the intended statue for the State of Virginia. He is here, but the materials and instruments he sent down the Seine from Paris not being arrived at Havre when we sailed, he was obliged to leave them, and is now busied in supplying himself here. As soon as that is done he proposes to wait on you in Virginia, as he understands there is no prospect of your coming

[1] The same year that this the most eminent of French sculptors sent his statue of Voltaire, now in the vestibule of the Théâtre Français, to be exhibited at the Paris Salon of 1781, he also sent a statue of Diana, which he had executed for Catherine II. of Russia.

The latter work was refused, the jury alleging that a statue of Diana required drapery, without which, they said, the goddess became a "suivante de Venus."

The great merit of the work in other respects could not save it from insult. A bronze reproduction of it may be seen in the Louvre. Houdon's annoyance at this treatment is supposed to have had its influence in determining him to accept the invitation given him by Franklin and Jefferson to go to America and execute a statue of Washington.

He accompanied Franklin, whose bust he had recently executed, to the United States in 1785, stayed some time with Washington at Mt. Vernon, and there modelled the bust of our first President. He soon returned to Paris, where he died in 1828.

hither, which would indeed make me very happy; as it would give me an opportunity of congratulating with you personally on the final success of your long and painful labors in the service of our country, which have laid us all under eternal obligations. With the greatest and most sincere esteem and respect, I am, dear sir, etc.,

B. FRANKLIN.

MCCCLXXVIII

EXTRACTS FROM A PRIVATE JOURNAL

Having stayed in France about eight years and a half, I took leave of the court and my friends, and set out on my return home, July 12, 1785, leaving Passy with my two grandsons, at four P.M.; arrived about eight o'clock at St. Germain. M. de Chaumont, with his daughter Sophia, accompanied us to Nanterre. M. Le Veillard will continue with us to Havre. We met at St. Germain the Miss Alexanders, with Mrs. Williams our cousin, who had provided a lodging for me at M. Benoît's. I found that the motion of the litter, lent me by the Duke de Coigny, did not much incommode me. It was one of the Queen's, carried by two very large mules, the muleteer riding another; M. Le Veillard and my children in a carriage. We drank tea at M. Benoît's, and went early to bed.

Wednesday, July 13th.—Breakfast with our friends, take leave and continue our journey, dine at a good inn at Meulan, and get to Mantes in the evening.

A messenger from the Cardinal de la Rochefoucauld meets us there, with an invitation to us to stop at his house at Gaillon the next day, acquainting us at the same time that he would take no excuse; for, being all-powerful in his archbishopric, he would stop us *nolens volens* at his habitation, and not permit us to lodge anywhere else. We consented. Lodged at Mantes. Found myself very little fatigued with the day's journey, the mules going only foot pace.

July 14th.—Proceed early, and breakfast at Vernon. Received a visit there from Vicomte de Tilly and his Comtesse. Arrive at the Cardinal's without dining, about six in the afternoon. It is a superb ancient chateâu, built about three hundred and fifty years since, but in fine preservation, on an elevated situation, with an extensive and beautiful view over a well cultivated country. The Cardinal is Archbishop of Rouen. A long gallery contains the pictures of all his predecessors. The chapel is elegant in the old style, with well painted glass windows. The terrace magnificent. We supped early. The entertainment was kind and cheerful. We were allowed to go early to bed, on account of our intention to depart early in the morning. The Cardinal pressed us to pass another day with him, offering to amuse us with hunting in his park; but the necessity we were under of being in time at Havre, would not permit. So we took leave and retired to rest. The Cardinal is much respected and beloved by the people of this country, bearing in all respects an excellent character.

July 15th.—Set out about five in the morning,

travelled till ten, then stopped to breakfast, and remained in the inn during the heat of the day. We had heard at the Cardinal's that our friend Mr. Holker, of Rouen, had been out that day as far as Port St. Antoine to meet us; expecting us there from a letter of M. de Chaumont's. Here came to us one of his servants, who was sent to inquire if any accident had happened to us on the road, and was ordered to proceed till he got intelligence. He went directly back, and we proceeded. We passed a chain of chalk mountains very high, with strata of flints. The quantity that appears to have been washed away on one side of these mountains, leaving precipices of three hundred feet high, gives an idea of extreme antiquity. It seems as if done by the beating of the sea. We got to Rouen about five; were most affectionately received by Mr. and Mrs. Holker. A great company of genteel people at supper, which was our dinner. The chief President of the Parliament and his lady invite us to dine the next day; but, being pre-engaged with Mr. Holker, we compounded for drinking tea. We lodge all at Mr. Holker's.

July 16th.—A deputation from the Academy of Rouen came with their compliments, which were delivered in form, and a present for me by one of the directors, being a magical square, which I think he said expressed my name. I have perused it since, but do not comprehend it. The Duke de Chabot's son, lately married to a Montmorency, and colonel of a regiment now at Rouen, was present at the ceremony, being just come in to visit me. I forgot to

mention that I saw with pleasure, in the Cardinal's cabinet, a portrait of this young man's grandmother, Madame la Duchesse d'Enville, who had always been our friend, and treated us with great civilities at Paris; a lady of uncommon intelligence and merit.

I received here also a present of books, 3 vols, 4to., from Dr. ———, with a very polite letter, which I answered.

We had a great company at dinner; and at six went in a chair to the President's, where were assembled some gentlemen of the robe. We drank tea there, awkwardly made, for want of practice, very little being drunk in France. I went to bed early; but my company supped with a large invited party, and were entertained with excellent singing.

July 17th.—Set out early. Mr. Holker accompanied us some miles, when we took an affectionate leave of each other. Dine at Yvetot, a large town, and arrive at Bolbec, being the longest day's journey we have yet made. It is a market-town of considerable bigness, and seems thriving; the people well clad, and appear better fed than those of wine countries. A linen-printer here offered to remove to America, but I did not encourage him.

July 18th.—Left Bolbec about ten o'clock, and arrive at Havre at five P.M., having stopped on the road at a miserable inn to bait. We were very kindly received by M. and Mme. Ruellan. The governor makes us a visit, and some other gentlemen.

July 19th.—We receive visits in form from the

intendant, the governor or commandant, the officers of the regiment of Poitou and Picardy, the corps of engineers, and M. Limosin.

M. Limosin proposes several vessels; all very dear. We wait for the packet from Southampton. Dine at M. Ruellan's, where we lodge. Receive the affiliation of the lodge at Rouen.

July 20th.—Return the visits. Receive one from the *corps de marine;* and one from the *corps d' artillerie.* M. Houdon arrives and brings me letters. Dine at M. Limosin's. Present M. and Mme. Le Mesurier and their sister, agreeable people of Alderney (Aurigny). Kindly entertained by M. Limosin and his daughter. Return the last visits.

The packet-boat arrives, and, the captain (Jennings) calling at our lodging; we agree with him to carry us and the baggage we have here for ten guineas, to land us at Cowes. We are to depart to-morrow evening.

July 21st.—We had another visit from M. de Villeneuve, the commandant, inviting us to dine with him to-morrow; but, intending to go off this evening, we could not accept that honor.

Dine with our friendly host and hostess. Mme. Feinés, Mme. de Clerval, and two other ladies, visit M. Le Veillard, with several gentlemen.

In the evening, when we thought we were on the point of departing, the captain of the packet comes and acquaints us that the wind is right against us, and blows so hard, that it is impossible to get out, and we give up the project till to-morrow.

July 22d.—Breakfast, and take leave of some

friends, and go on board the packet at half after ten. Wind not very fair.

July 23d.—Buffet all night against the northwest wind, which was full in our teeth. This continued till two o'clock to-day, then came fair, and we stand our course. At 7 P.M. we discover land, the Isle of Wight.

July 24th.—We had a fair wind all night, and this morning at seven o'oclck, being off Cowes, the captain represented to me the difficulty of getting in there against the flood; and proposed that we should rather run up to Southampton, which we did, and landed there between eight and nine. Met my son, who had arrived from London the evening before, with Mr. Williams and Mr. J. Alexander.[1] Wrote a letter to the Bishop of St. Asaph, acquainting him with my arrival, and he came with his lady and daughter, Miss Kitty, after dinner, to see us; they talked of staying here as long as we do. Our meeting was very affectionate. I write letters to London, viz., to Messrs. W. J. M. and Co., to acquaint them with our arrival, and desire to know when the ship will sail, and to Mr. Williams. These letters went by post, before we knew of his being here. Wrote also to Mr. B. Vaughan.

July 25th.—The Bishop and family lodging in the same inn, the Star, we all breakfast and dine together. I went at noon to bathe in Martin's salt-water hot-bath, and, floating on my back, fell asleep,

[1] This was the first time Franklin had seen his son since he left America in 1776, when William was Governor of New Jersey. Their interview must have been interesting, but not of an interest which either party saw fit to share with posterity.

and slept near an hour by my watch, without sinking or turning! a thing I never did before, and should hardly have thought possible. Water is the easiest bed that can be. Read over the writings of conveyance, etc., of my son's lands in New Jersey and New York to my grandson. Write to M. Ruellan, M. Limosin, M. Holker, and M. Grand. Southampton a very neat, pretty place. The two French gentlemen, our friends, much pleased with it. The Bishop gives me a book in 4to, written by Dean Paley, and the family dine with us. Sundry friends came to see me from London; by one I receive a present of my friend Dr. Fothergill's works, from Dr. Lettsom, and a book on finance, from Mr. Gale. Mr. Williams tells me the ship had fallen down to Gravesend the 22d, so that she might be in the Downs the 24th, and possibly here to-morrow, that is on the Mother Bank, which we can see hence. Mr. Williams brought a letter from Mr. Nepean, secretary to Lord Townshend, addressed to Mr. Vaughan, expressing that orders would be sent to the custom-house at Cowes not to trouble our baggage, etc. It is still here on board the packet that brought it over. Mr. Alexander takes leave for London; write by him to Mr. Jackson, Dr. Jeffries, Dr. Lettsom, and my son-in-law Bache, the latter to be sent by the packet.

July 26th.—Deeds signed between W. Franklin and W. T. Franklin.

Mr. Williams, having brought sundry necessaries for me, goes down with them to Cowes, to be ready for embarking. Captain Jennings carries down our baggage that he brought from Havre. My dear

friend, M. Le Veillard, takes leave to go with him. Mr. Vaughan arrives from London to see me.

July 27th.—Give a power to my son to recover what may be due to me from the British government. Hear from J. Williams that the ship is come.

We all dine once more with the Bishop and family, who kindly accept our invitation to go on board with us. We go down in a shallop to the ship. The captain entertains us at supper. The company stay all night.

July 28th.—When I waked in the morning found the company gone and the ship under sail.

Tuesday, September 13th.—The wind springing fair last evening after a calm, we found ourselves this morning, at sun-rising, abreast of the light-house, and between Capes May and Henlopen. We sail into the bay very pleasantly; water smooth, air cool, day fair and fine.

We passed Newcastle about sunset, and went on to near Red Bank before the tide and wind failed; then came to an anchor.

Wednesday, September 14th.—With the flood in the morning came a light breeze, which brought us above Gloucester Point, in full view of dear Philadelphia! when we again cast anchor to wait for the health officer, who, having made his visit, and finding no sickness, gave us leave to land. My son-in-law came with a boat for us; we landed at Market Street wharf, where we were received by a crowd of

people with huzzas, and accompanied with acclamations quite to my door. Found my family well.

God be praised and thanked for all his mercies!

MCCCLXXIX

TO WILLIAM GREENE, GOVERNOR OF RHODE ISLAND, AND MRS. GREENE

PHILADELPHIA, 20 September, 1785.

I seize this first opportunity of acquainting my dear friends that I have once more the great happiness of being at home in my own country, and with my family, because I know it will give you pleasure. I shall be glad to hear of your welfare also, and beg you to favor me with a line, and let me know particularly how my young friend Ray does.

I enjoy, thanks to God, as much good health as can reasonably be expected at my time of life; and am ever, with sincere esteem, my dear friends, yours, most affectionately,

B. FRANKLIN.

MCCCLXXX

FROM M. DE MARBOIS

NEW YORK, 21 September, 1785.

SIR:—It is with the greatest satisfaction that I have the honor to congratulate you on your happy return to your own country. As a Frenchman, it is with some degree of pain that I reflect on the

necessity which has caused you again to join your fellow-citizens, who have desired to see you among them; but the six years that I have passed in this country, and the ties that I have formed here,[1] have made me so much an American, that I participate most sincerely in the joy which all the world is expressing at your return.

I am on the point of departing for St. Domingo, and am extremely sorry that the short time remaining before that event, deprives me of the pleasure of paying my respects to you in person at Philadelphia. I shall sail in three or four days, and shall be happy to execute any orders with which you may favor me. I am, etc.,

DE MARBOIS.

MCCCLXXXI

TO JOHN JAY AND MRS. JAY[2]

PHILADELPHIA, 21 September, 1785.

DEAR FRIENDS:—I received your very kind letter of the 16th, congratulating me on my safe arrival with my grandsons, an event that indeed makes me very happy, being what I have long ardently wished,

[1] M. de Marbois had married an American lady of Philadelphia.

[2] As soon as Mr. Jay heard of Dr. Franklin's arrival, he wrote to him as follows:

"Dear Sir:—I had this moment the satisfaction of seeing, in a Pennsylvania newspaper, an account of your safe arrival with your grandsons at Philadelphia. Accept Mrs. Jay's and my sincere and cordial congratulations on this happy event, and our best wishes that the same kind Providence which has restored you to your country may long bless you with health and prosperity in it."—*New York, September* 16, 1785.

and, considering the growing infirmities of age, began almost to despair of. I am now in the bosom of my family, and find four new little prattlers, who cling about the knees of their grandpapa, and afford me great pleasure. The affectionate welcome I met with from my fellow-citizens was far beyond my expectation.

I bore my voyage very well, and find myself rather better for it, so that I have every possible reason to be satisfied with my having undertaken and performed it. When I was at Passy, I could not bear a wheel carriage; and being discouraged in my project of descending the Seine in a boat, by the difficulties and tediousness of its navigation in so dry a season, I accepted the offer of one of the king's litters, carried by large mules, which brought me well, though in walking slowly, to Havre. Thence I went over in a packet-boat to Southampton, where I stayed four days, till the ship came for me to Spithead. Several of my London friends came there to see me, particularly the good Bishop of St. Asaph and family, who stayed with me to the last. In short, I am now so well as to think it possible that I may once more have the pleasure of seeing you both perhaps at New York, with my dear young friends (who I hope may not have quite forgotten me); for I imagine that on the sandy road between Burlington and Amboy I could bear an easy coach, and the rest is water. I rejoice to hear that you continue well, being with true and great esteem and affection your most obedient servant,

B Franklin.

MCCCLXXXII

FROM GEORGE WASHINGTON

MOUNT VERNON, 25 September, 1785.

DEAR SIR:—Amid the public gratulations on your safe return to America, after a long absence and the many eminent services you have rendered it, for which as a benefited person I feel the obligation, permit an individual to join the public voice in expressing a sense of them, and to assure you that, as no one entertains more respect for your character, so no one can salute you with more sincerity or with greater pleasure than I do on the occasion. With the highest regard and greatest consideration, I am, dear sir, etc.,

GEORGE WASHINGTON.

MCCCLXXXIII

FROM GEORGE WASHINGTON

MOUNT VERNON, 26 September, 1785.

DEAR SIR:—I had just written, and was about to put into the hands of Mr. Taylor, a gentleman in the Department of the Secretary of Foreign Affairs, the enclosed letter, when I had the honor to receive by post your favor of the 20th inst. I have a grateful sense of the partiality of the French nation towards me, and feel very sensibly the indulgent expression of your letter, which does me great honor.

When it suits M. Houdon to come hither I will accommodate him in the best manner I am able, and

shall endeavor to render his stay as agreeable as I can. It would give me infinite pleasure to see you. At this place I dare not look for it, though to entertain you under my own roof would be doubly gratifying. When or whether I shall ever have the satisfaction of seeing you at Philadelphia is uncertain, as retirement from the public walks of life has not been so productive of leisure and ease as might have been expected. With very great esteem and respect, I am, dear sir, your most obedient, etc.,

GEORGE WASHINGTON.

MCCCLXXXIV

TO THOMAS PAINE, ESQ.

PHILADELPHIA, 27 September, 1785.

DEAR SIR:—Your kind congratulations on my safe return give me a great deal of pleasure; for I have always valued your friendship.

The ease and rest you wish me to enjoy for the remainder of my days is entirely what is most proper for me, what I long wished for, and what I proposed to myself in resigning my late employment; but it is what I find I am not likely to obtain: for my fellow-citizens having in a considerable body expressed their desire that I would still take a part in their public counsels, assuring me it was the unanimous wish of the different parties that divide the State, from an opinion that I might find some means of reconciling them, I had not sufficient firmness to refuse their request of permitting their voting for me

as a Councillor at the ensuing election. Though I apprehend they expect too much of me, and that without doing the good proposed, I shall find myself engaged again in business more troublesome than that I have lately quitted.

As to my health, of which you kindly desire some information, it is as well as, at my age, can reasonably be expected. I have the stone indeed, and sometimes the gout, but the pain from the stone is hitherto not very severe, and there are in the world so many worse maladies to which human nature is subject, that I ought to be content with the moderate share allotted me.

Be assured, my dear friend, that instead of repenting that I was your introducer into America, I value myself on the share I had in procuring for it the acquisition of so useful and valuable a citizen.

I shall be very glad to see you when you happen to be again at Philadelphia, being with sincere esteem and affection, dear sir, your most obedient and most humble servant,

B. FRANKLIN.

MCCCLXXXV

ADDRESS FROM THE AMERICAN PHILOSOPHICAL SOCIETY TO THE HON. BENJAMIN FRANKLIN

SIR:—It is with peculiar pleasure that the *American Philosophical Society* address you on this occasion.

The high consideration and esteem in which we hold your character so intimately combine with our

regard for the public welfare, that we participate eminently in the general satisfaction which your return to America produces.

We bid you welcome to your native country, for which you have done the most essential services; and we welcome you to this chair, your occupying of which, as President, adds to our institution much lustre in the eyes of all the world.

Sir, it reflects honor on philosophy, when one, distinguished for his deep investigations, and many valuable improvements in it, is known to be equally distinguished for his philanthropy, patriotism, and liberal attachment to the rights of human nature.

We know the favorable influence that freedom has upon the growth of useful sciences and arts. We derive encouragement and extraordinary felicity from an assemblage of recent memorable events.

And, while we boast in a most pleasing equality permanently ascertained, and that independence which you had so great a share in establishing, we have reason to expect, that this Society will proceed, with an increasing success, to manage the important business for which they originally associated.

September 27, 1785.

DR. FRANKLIN'S ANSWER

GENTLEMEN:—The great honor done me by your Society, in choosing me so many years successively their President, notwithstanding my absence in Europe, and the very kind welcome they are pleased to give me on my return, demand my most grateful

acknowledgments; which I beg they will accept, with my warmest wishes of success to their laudable endeavors for the promoting of useful knowledge among us, to which I shall be happy if I can in any degree contribute.

MCCCLXXXVI

TO MR. FRANCIS CHILDS, PRINTER AT NEW YORK

PHILADELPHIA, 1 October, 1785.

SIR:—I thank you for your kind congratulations on my return. My printing materials, consisting of a great variety of founts, were sent down the Seine some weeks before I left Passy, but were so long in their passage, that when I came to Havre they were not arrived, and I was obliged to come away without them. It was expected that the next packet would be ordered to sail from Havre, in which case I left directions that my packages should all be sent by her to New York. When I hear of their arrival I may possibly come to New York; and then we may treat on the subject you mention. I have now only to add that I shall be glad of being serviceable to you on reasonable terms, and am your humble servant,

B. FRANKLIN.

MCCCLXXXVII

FROM JOHN JAY

NEW YORK, 4 October, 1785.

DEAR SIR:—Your grandson, whom it gave me great pleasure to see, delivered to me a few days ago

your kind letter of the 21st of last month. Your being again with your family, the manner in which the French court parted with you, the attention you experienced from your English friends, and the reception you met with from your fellow-citizens, are circumstances that must give you great satisfaction.

It strikes me that you will find it somewhat difficult to manage the two parties in Pennsylvania; it is much to be wished that union and harmony may be reëstablished there, and if you accomplish it, much honor and many blessings will result from it. Unless you do it, I do not know who can; for, independent of experience and talents, you possess their confidence, and your advice and measures must derive very great weight from the reputation and consideration you enjoy.

Why your letters respecting your grandson have not been more efficacious, I cannot explain. The appointment of persons in the foreign department has in no instance been referred to me for my advice or opinion. Jealousy of power and influence in individuals as well as bodies of men seems to characterize the spirit of the times, and has much operation both on men and measures.

We are happy to find that you think of visiting New York. By the road from Burlington to Amboy, which is smooth and but short, you might doubtless come with very little inconvenience, especially as you may travel at your leisure, and take as many days as your ease and the weather may require. Mrs. Jay is exceedingly pleased with this idea, and sincerely joins with me in wishing to see

it realized. Her attachments are strong, and that to you, being founded in esteem and the recollection of kind offices, is particularly so. I suspect your little friend has forgotten your person; your name is familiar to her, as indeed it will be to every generation. With the best wishes, I am, dear sir, your obliged and affectionate servant,

JOHN JAY.

MCCCLXXXVIII

FROM M. LE VEILLARD

PASSY, 9 October, 1785.

MY DEAR FRIEND:—We are waiting with the greatest impatience to hear from you. The newspapers have given us anxiety on your account; for some of them insist that you have been taken by the Algerines, while others pretend that you are at Morocco, enduring your slavery with all the patience of a philosopher. These reports luckily have not been confirmed; but we shall not be entirely at our ease until we see your handwriting, dated at Philadelphia. You cannot imagine how sad we have felt ever since you have left us, and how often we speak of you. This we shall never cease to do. There is even poor Castor, who never knows what to do with himself on Sunday mornings.

We have again for a moment had fears of a war with the Emperor. He had some difficulty in coming to a final settlement with the Dutch; but,

fortunately, all is at last concluded and signed. The King of Prussia, moreover, who is in a fine position at this moment, is at the head of a confederacy of almost all the states of Germany, to resist all attempts at aggrandizement on the part of the Emperor. As to your countrymen, have they at last found a solid basis on which to rest their fabric? Can they sustain their liberty? Certainly they have great need of your wise counsels.

You will be astonished to hear that we have just arrested in his full dress, and sent to the Bastile, a cardinal,[1] who is a prince and bishop of Strasburg. This cardinal, who has an income of more than twelve hundred thousand livres, took from a jeweller's on credit, and on the queen's account, a diamond necklace, worth one million six hundred thousand livres. Accused by her before the king, he has produced a note which, as he pretends, he believed to have been written and signed by her. His trial is going on before the Parliament of Paris, and his sentence will be pronounced after the vacation. He is in the uncomfortable dilemma of being able to prove that he is not a knave, only by proving that he is a fool.

Mademoiselle Brillon is to be married on the 20th of this month to M. Viasal de Malachet, son of one of the king's secretaries. He is a counsellor at the Court of Aids, and is to leave that business to take the office of M. Brillon, with whom the young couple are to live. Your friends can never cease to regret your absence. I am asked about you ten times a

[1] The Cardinal de Rohan.

day. They all send you their affectionate regards. I hope you have been industrious during your passage, and that you have finished your memoirs and will send them to me.[1] My wife and daughter unite with me, and we all beg you to remember that nobody in the world loves you more affectionately than we do.

LE VEILLARD.

MCCCLXXXIX

TO M. LE RAY DE CHAUMONT

PHILADELPHIA, 20 October, 1785.

I make no apology for writing in English, because I know my friend Sophy can translate it for you.[2]

Immediately after my landing, I wrote to acquaint

[1] The first part of the memoirs of his life, written in England, Dr. Franklin had communicated to M. Le Veillard.

[2] Franklin knew the French language passably well, but he never acquired a very great facility either in writing or speaking. it. He learned it as early as 1733, so that he could read it a little; but when he visited France in 1767 and 1769, though he was already a celebrity in Paris, and brought letters to Madame Geoffrin from David Hume, he did not find himself adequately equipped with French for circulating in Paris society. He lost no time, when he took up his residence in France, in repairing this deficiency as well as possible at his then advanced age, and he succeeded marvellously in that, as in every thing to which he applied his mind. But there is a story told at the expense of his French, which is no doubt good testimony upon this point merely because it was current, whether authentic or not, and there is no reason, that I know of, to question its authenticity.

At a session of the French Academy, finding it difficult to follow the exercises, and wishing to appear no less appreciative than the rest of the audience, he said that he should applaud every time he heard Madame de Boufflers give signs of approbation. It unfortunately happened that he applauded the loudest at his own praises.—EDITOR.

you with my safe arrival and the absence of your son. He is since returned in good health, and writes to you by this opportunity, of which he acquainted me. I just now received your favor of August 10th, with two for him. They will be put in his hands as soon as he returns from a hunting party, on which he is out at present with my son Bache and some others; but will be back here next Sunday.

I thank you for delivering the tables to Madame Le Veillard; but more particularly for the present you have made to Abbé Morellet, at my request, of the doctoral chair. He had taken a vast liking to it, and the possession must give him great pleasure. The *marmite à vapeur* I have with me here. We used it at sea with great success; though the water we boiled was salt.

As to Finck, the *maitre d'hotel*, he was fairly paid in money for every just demand he could make against us, and we have his receipts in full. But there are knaves in the world whom no writing can bind, and when you think you have finished with them, they come with demands after demands *sans fin*. He was continually saying of himself, *Je suis honnête homme; je suis honnête homme*. But I always suspected he was mistaken; and so it proves.

I hope your Princes and Princesses and Duchesses and Marquises are not birds of passage, but will stay with you as we did through the winter, so that you may pass it the more agreeably.

I will mention your project for transporting wood, etc., to some of my friends; but I think this not the best part of the country for such an undertaking.

MCCCXC

FROM GAETANO FILANGIERI

DALLA CAVA, 24 October, 1785.

SIR:—The publication of three more volumes of my work affords me a new opportunity of testifying to you my respect, and the attention due from me.[1] Your return to America, so glorious to yourself, and the great distance which separates us, far from exempting me from this duty, only renders the fulfilment of it the more praiseworthy, by the difficulties and the obstacles which are to be surmounted. I send you at present but a single copy of these three volumes, because I do not know, nor have I been able to ascertain from Signor Pio, how many copies of the former volumes of my work he has forwarded. You have only to inform me of the number, and to give me the address of the person in France to whom the packet is to be directed, and I will immediately send a similar number of copies of the volumes just published. These contain the fourth book of the work, which has for its subject the laws which concern *education, manners, and public instruction.* My ideas on these subjects are certainly new, but are they sound? As to this point, it belongs to you, more than to any one else, to decide.

May you enjoy, sir, the laurels to which your talents and your virtues so well entitle you. The blessings invoked on your name by a great nation

[1] Alluding to his work on the *Science of Legislation*, the first two volumes of which were published in 1780, the two following in 1783, and three others in 1785.

are the only reward worthy of the author of their liberty and the avenger of their wrongs. God grant that your years may be prolonged according to the wishes and the interests of that nation, and that your advanced age may not prevent you from strengthening, and perfecting, and placing upon an eternal foundation, by wise laws, the work achieved by a just indignation and by valor! I have the honor to subscribe myself in sincerity, sir, your most devoted and obedient servant,

GAETANO FILANGIERI.

MCCCXCI

TO DAVID HARTLEY

PHILADELPHIA, 27 October, 1785.

DEAR SIR:—I received at Havre de Grâce six copies of your print, which I have brought with me hither. I shall frame and keep one of them in my best room. I shall send one to Mr. Jay, and give the others among some friends who esteem and respect you as we do.

Your newspapers are filled with accounts of distresses and miseries, that these States are plunged into since their separation from Great Britain. You may believe me when I tell you that there is no truth in those accounts. I find all property in lands and houses augmented vastly in value; that of houses in towns at least fourfold. The crops have been plentiful, and yet the produce sells high, to the

great profit of the farmer. At the same time, all imported goods sell at low rates, some cheaper than the first cost. Working people have plenty of employ, and high pay for their labor.

These appear to me as certain signs of public prosperity. Some traders indeed complain that trade is dead; but this pretended evil is not an effect of inability in the people to buy, pay for, and consume the usual articles of commerce, as far as they have occasion for them; it is owing merely to there being too many traders, who are crowded hither from all parts of Europe with more goods than the natural demand of the country requires. And what in Europe is called the debt of America is chiefly the debt to these adventurers and supercargoes to their principals, with which the settled inhabitants of America, who never paid better for what they want and buy, have nothing to do. As to the contentment of the inhabitants with the change of government, methinks a stronger proof cannot be desired than what they have given in my reception. You know the part I had in that change, and you see in the papers the addresses from all ranks with which your friend was welcomed home, and the sentiments they contain confirmed yesterday in the choice of him for President by the Council and new Assembly, which was unanimous, a single voice in seventy-seven excepted.

I remember you used to wish for newspapers from America. Herewith I send a few, and you shall be regularly supplied, if you can put me in a way of sending them, so as that you may not be

obliged to pay postage. With unchangeable esteem and respect, I am, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCXCII

TO MRS. MARY HEWSON

PHILADELPHIA, 30 October, 1785.

I received my dear friend's letter of July 23d at Southampton, where I arrived the 24th, and stayed till the 28th. I believe I acquainted you by a line, immediately after my arrival here, that we had a pleasant, and not a long passage, in which there was but one day, a day of violent storm, in which I was glad you were not with us. I had the happiness of finding my family well, and of being very kindly received by my country folks.

I say nothing to persuade your coming, because I said in a former letter I would leave you entirely to your own judgment, which is very good. I would only mention the fact that, on inquiry, I am informed the usual apprentice fee to a mercantile house of eminence is from one hundred to one hundred and fifty pounds sterling. I am plunged again into public business as deep as ever, and can now only add my love to the dear children, in which this family all join. Temple is just gone to look at his lands, and Ben is at college to complete his studies. I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCXCIII

TO JOHN BARD AND MRS. BARD

PHILADELPHIA, 14 November, 1785.

DEAR FRIENDS:—I received your kind letter, which gave me much pleasure, as it informed me of your welfare. Your friendly congratulations are very obliging. I had on my return some right, as you observe, to expect repose; and it was my intention to avoid all public business. But I had not firmness enough to resist the unanimous desire of my country folks; and I find myself harnessed again in their service for another year. They engrossed the prime of my life. They have eaten my flesh, and seem resolved now to pick my bones. You are right in supposing that I interest myself in every thing that affects you and yours, sympathizing in your afflictions, and rejoicing in your felicities; for our friendship is ancient, and was never obscured by the least cloud.

I thank you for your civilities to my grandson, and am ever, with sincere and great esteem and regard, my dear friends, yours most affectionately,

B. FRANKLIN.

MCCCXCIV

TO MATHON DE LA COUR

PHILADELPHIA, 18 November, 1785.

SIR:—I received duly the letter you did me the honor of writing to me on the 25th of June past, together with the collection you have made *des comtes*

rendus de vos contrôleurs généraux; and your *Discours sur les Moyens d'encourager le Patriotisme dans les Monarchies.* The first is a valuable work, as containing a great deal of useful information; but the second I am particularly charmed with, the sentiments being delightfully just, and expressed with such force and clearness, that I am persuaded the pamphlet, though small, must have a great effect on the minds of both princes and people, and thence be productive of much good to mankind. Be pleased to accept my hearty thanks for both.

It is right to be sowing good seed whenever we have an opportunity, since some of it may be productive. An instance of this you should be acquainted with, as it may afford you pleasure. The reading of *Fortuné Ricard's Testament,* has put it into the head and heart of a citizen to leave two thousand pounds sterling to two American cities, who are to lend it in small sums at five per cent. to young beginners in business; and the accumulation, after a hundred years, to be laid out in public works of benefit to those cities.[1] With great esteem, I have the honor to be, sir, etc.,

B. FRANKLIN.

MCCCXCV

TO EDWARD BANCROFT

PHILADELPHIA, 26 November, 1785.

DEAR SIR:—I received your kind letter of September 5th, informing me of the intention Mr. Dilly has

[1] See Dr. Franklin's will.

of printing a new edition of my writings, and his desire that I would furnish him with such additions as I may think proper. At present all my papers and manuscripts are so mixed with other things, by the confusions occasioned in sudden and various removals during the late troubles, that I can hardly find any thing. But, having nearly finished an addition to my house, which will afford me room to put all in order, I hope soon to be able to comply with such a request; but I hope Mr. Dilly will have a good understanding in the affair with Henry and Johnson, who, having risked the former impressions, may suppose they thereby acquired some right to the copy. As to the "Life" proposed to be written, if it be by the same hand who finished a sketch to Dr. Lettsom, which he sent me, I am afraid it will be found too full of errors for either you or me to correct; and, having been persuaded by my friends, Messrs. Vaughan and M. Le Veillard, Mr. James of this place, and some others, that such a "Life," written by myself, may be useful to the rising generation, I have made some progress in it, and hope to finish it this winter; so I cannot but wish that project of Mr. Dilly's biographer may be laid aside. I am nevertheless thankful to you for your friendly offer of correcting it.

As to public affairs, it is long since I gave over all expectations of a commercial treaty between us and Britain; and I think we can do as well, or better, without one than she can. Our harvests are plenty, our produce fetches a high price in hard money, and there are in every part of our country incontestable

marks of public felicity. We discover, indeed, some errors in our general and particular constitutions; which it is no wonder they should have, the time in which they were formed being considered. But these we shall soon mend. The little disorders you have heard of in some of the States, raised by a few wrong heads, are subsiding, and will probably soon be extinguished. My best wishes, and those of my family, attend you. We shall be happy to see you here, when it suits you to visit us; being with sincere and great esteem, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCXCVI

FROM JONATHAN SHIPLEY, BISHOP OF ST. ASAPH

TWYFORD, 27 November, 1785.

MY DEAR FRIEND:—I felt myself much obliged to your worthy nephew, Mr. Williams, for the account of your safe arrival and very honorable reception at Philadelphia. Our last short interview at Southampton was so much in mixed company, and your hours were so entirely taken up with the final business of leaving this ungrateful country, that I hardly found a single opportunity for the confidential information to which our old friendship seemed to entitle us, and I, on my part, was very ready to give.

But, to own the truth, I had but little curiosity to know the particulars of your negotiations with either the French or the English ministers. The

event has shown that, in their own arts, you were not inferior to the ablest of them. I had much rather hear from you, with what prudence and success your countrymen proceed in reviving and establishing that civil liberty, which is extinguished everywhere else. Sure there never was opened so fine a field for making experiments and improvements in the philosophy of government, which I take to be the noblest species of philosophy that can exercise the mind of man. But your great blessing is, that he who is best able to serve his country is sure of being rewarded. Make the most of the golden opportunity. It has seldom lasted long. I live in a very different scene, where the most unprofitable and, perhaps, the most dangerous part a man can act, is to mention the faults or propose any amendment in our corrupt and shattered frame of government. Yet I feel every day more reason to be pleased with the part I myself have acted.

But whether you had rather give us only an account of your domestic circumstances, which I think must necessarily be happy, I fancy you will give me credit for saying, that nobody will be more warmly interested in what concerns you than the part of my family you saw at Southampton. Mrs. Shipley and her daughter Kitty, in their passion for you, rival Georgiana. They agree with me in interesting ourselves for all the worthy family party we met with you. I wish your nephew, and my old friend, Mr. Williams, success in all his future views. He can hardly undertake any business for which he is unqualified. Your promising grandson, who has the

courage to tread in your early steps, I hope will preserve the same generous emulation through his life. Few professions are, in my eyes, more respectable than the character of a printer who excels in his art. Aldus and Stephens stand high as men of letters, and made their learning and criticism subservient to their business.

Let me hope that you will sometimes remember, amidst the applauses of your countrymen, that there is a family in England who love you as well as your own. Your ever affectionate

J. St. Asaph.

MCCCXCVII

TO JAMES BOWDOIN

Philadelphia, 1 January, 1786.

My Dear Friend:—It gave me great pleasure to receive your kind letter of congratulation, as it proved that all my old friends in Boston were not estranged from me by the malevolent misrepresentations of my conduct that had been circulated there, but that one of the most esteemed still retained a regard for me. Indeed, you are now almost the only one left me by nature; death having, since we were last together, deprived me of my dear Cooper, Winthrop, and Quincy.

I have not received the letter you mention to have sent me with some Memoirs, under cover to Dr. Price. I must have left Europe before they got to his hands; but he will doubtless send them to me by

the first convenient opportunity. It was not necessary to make any apology for the liberty you say you have taken in those Memoirs, in making observations on my *Queries upon Light*, for I am sure they will help me to understand it better, and that must make them agreeable to me. I shall be glad to see the whole volume,[1] which you are so kind as to promise me; and I hope in the course of a few months to be able to make returns, in a second volume of our Memoirs,[2] now in the press.

I sent to you by Mr. Gerry, some weeks since, Dr. Jeffries' account of his aërial voyage from England to France, which I received from him just before I left that country. In his letter, that came with it, he requests I would not suffer it to be printed, because a copy of it had been put into the hands of Sir Joseph Banks for the Royal Society, and was to be read there in November. If they should not think fit to publish it, as I apprehend may be the case, they having hitherto avoided meddling with the subject of balloons, I shall be glad to have the minutes returned to me. In the meantime, I thought it might afford some amusement to you and to your Society.[3] My acquaintance with Dr. Jeffries began by his bringing me a letter in France, the first through the air, from England.

With best wishes of many happy new years to you and good Madam Bowdoin, I have the honor to be, dear sir, etc.,

B. FRANKLIN.

[1] First volume of the *Memoirs of the American Academy of Arts and Sciences.*

[2] *Transactions of the American Philosophical Society.*

[3] The paper was printed in London, entitled *A Narrative of Two Aërial Voyages.* 4to. 1786.

MCCCXCVIII

TO MRS. MECOM

PHILADELPHIA, 24 January, 1786.

MY DEAR SISTER:—I have received your letter of the 6th inst., with the recipe for making brown soap, which is very clearly written, and I thank you for it, as well as for the account of our relations in New England, who are more numerous than I imagined, though I think you have omitted some, unless they are all dead. I mean a family at Providence; their names I forget, but the mother was a daughter of our brother Samuel, or a granddaughter.

As to my health, which you enquire after, it is much the same as it has been for some years past. The pains caused sometimes by the stone do not augment, my appetite continues good, and my temper generally cheerful; my strength and activity diminishing, indeed, but by slow degrees. I don't know what the answer was which Chesterfield gave to his son's widow.

Your letter to Mr. Vernon seems to me very proper and well written, and I think he was wrong in detaining the five dollars. But when we consider that he was under no obligation to pay a debt contracted by his son, we may be glad that we have recovered so much of it, and that when it is so common to pay interest of an old debt in ill language he has paid you only in silence. It is a family I have formerly been in friendship with, and I would not have you trouble them with any further demands.

I have received a letter from the widow you

mention as having had a husband killed in Hopkin's Fleet, but she has sent me no vouchers on which I might found an application in her favor, and I am afraid she has no other proof of the fact but a strong persuasion, as she told me, "He was in the Fleet as sure as I am now alive, and lost his life in their cause." And afterwards says: "I have waited near eight years in hopes he was taken and would return, but now my hopes are all fled. That he fell a victim in their cause I have not the least doubt." It is strange that in eight years she had not been able to learn whether he had been killed or not; and as the Congress long since appointed Commissions to examine and settle the claims of persons or the representations of persons who had served in their ships or armies, which Commissioners are doubtless provided with muster-rolls of the several corps, I wonder at her not having applied directly to them. But there are people in the world—I have met with many such—who love to have a kind of pocket complaint always at hand, with which they endeavor to procure compassion by exhibiting it everywhere and to everybody but those whose proper business it would be to redress it. These they avoid, lest their darling complaint being examined should be found to have no foundation. I have written an answer to her letter, which I enclose. If you should have any future applications of this sort made to you to be handed to me, I think you may avoid giving yourself any trouble with them by acquainting the people that I was absent all the war, must be unacquainted with the facts, am now at a distance from Congress, have

at present no connection with that body, and that the application is more proper to be made to the delegates from their own State than to me.

My *New Alphabet* is in a printed book of my pieces, which I will send you the first opportunity I have by water. The petition of Z. is enclosed.

I do not wonder at your blaming me for accepting the government. We have all of us wisdom enough to judge what others ought to do or not to do in the management of their affairs, and 't is possible I might blame you as much if you were to accept the offer of a young husband. My example may teach you not to be too confident in your own prudence, as it teaches me not to be surprised at such an event should it really happen.

We all join in love, etc., and I am ever your affectionate brother,

B. FRANKLIN.

MCCCXCIX

TO JONATHAN WILLIAMS

PHILADELPHIA, 27 January, 1786.

DEAR JONATHAN:—Your bill for £47 10s. 0d. has been presented and is accepted.

In my last of January 19th, I promised to send you some philosophical papers, which I now enclose. The three pieces I wrote at sea will all be printed in our *Transactions* here; that on chimneys is already done, and perhaps I may send you the sheets with this. The others will be done soon; and printed copies will be better for you than written ones by Ben.

I wonder with you that the books are not arrived. Pray write and enquire about them.

When I put Dr. Jeffries' Memoir into the hands of Mr. Gerry, I fancied he was going to Boston, or as a Member of Congress would send it free of postage. But I see by the newspapers that he stays at New York to be married, and perhaps that important transaction has put the packet out of his mind.

I am ever your affectionate uncle,

B. FRANKLIN.

MCCCC

DESCRIPTION OF AN INSTRUMENT FOR TAKING DOWN BOOKS FROM HIGH SHELVES

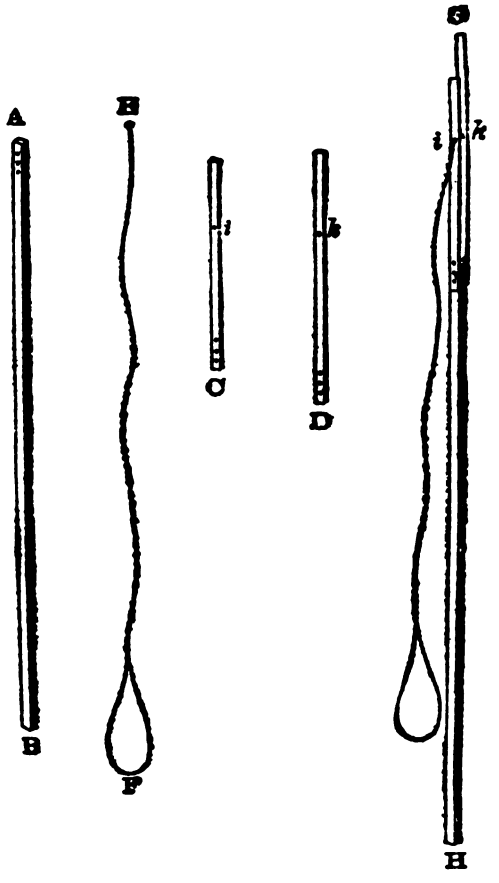
January, 1786.

Old men find it inconvenient to mount a ladder or steps for that purpose, their heads being sometimes subject to giddinesses, and their activity with the steadiness of their joints being abated by age, besides the trouble of removing the steps every time a book is wanted from a different part of their library.

For a remedy, I have lately made the following simple machine, which I call the *Long Arm.*

A B, the *Arm*, is a stick of pine, an inch square and 8 feet long. *C*, *D*, the *Thumb* and *Finger*, are two pieces of ash lath, an inch and half wide, and a quarter of an inch thick. These are fixed by wood screws on opposite sides of the end *A* of the arm *A B;* the finger *D* being longer and standing out an inch and half farther than the thumb *C*. The outside of the ends of these laths are pared off sloping

and thin, that they may more easily enter between books that stand together on a shelf. Two small holes are bored through them at *i*, *k*. *E F*, the



sinew, is a cord of the size of a small goose-quill, with a loop at one end. When applied to the machine it passes through the two laths, and is stopped by a knot in its other end behind the longest at *k*. The hole at *i* is nearer the end of the arm than that at *k*,

about an inch. A number of knots are also on the cord, distant three or four inches from each other.

To use this instrument; put one hand into the loop, and draw the sinew straight down the side of the arm; then enter the end of the finger between the book you would take down and that which is next to it. The laths being flexible, you may easily by a slight pressure sideways open them wider if the book is thick, or close them if it is thin by pulling the string, so as to enter the shorter lath or thumb between your book and that which is next to its other side, then push till the back of your book comes to touch the string. Then draw the string or sinew tight, which will cause the thumb and finger to pinch the book strongly, so that you may draw it out. As it leaves the other books, turn the instrument a *quarter* round, so that the book may lie flat and rest on its side upon the under lath or finger. The knots on the sinew will help you to keep it tight and close to the side of the arm as you take it down hand over hand, till the book comes to you; which would drop from between the thumb and finger if the sinew was let loose.

All new tools require some practice before we can become expert in the use of them. This requires very little.

Made in the proportions above given, it serves well for books in duodecimo or octavo. Quartos and folios are too heavy for it; but those are usually placed on the lower shelves within reach of hand.

The book taken down may, when done with, be put up again into its place by the same machine.

MCCCCI

FROM THE DUKE DE LA ROCHEFOUCAULD

PARIS, 8 February, 1786.

MY DEAR FRIEND:—I have heard of you through Mr. Jefferson and M. Le Veillard. The latter showed me the letter, in which you announced to him your nomination to the office of President, and I admired the resolution which determined you to take upon yourself an employment so fatiguing, but in which you can labor effectually for the happiness of Pennsylvania, and for that of the other States, upon which the example of your own will assuredly have a great influence. I know that two powerful and nearly equal parties support different principles as the basis of the Constitution; but nobody is better qualified than yourself to conciliate both of them, and to obtain, not perhaps the constitution most absolutely perfect, but at least, as Solon said, the best which your fellow-citizens are able to bear.

This is the critical moment for the Americans. The return of peace and the certainty of independence demand of them a general revision of their laws, and the formation of new codes, no longer a servile imitation of the laws of England, but dictated by reason, conformed to their actual situation, and adapted to insure the happiness of States and individuals. In legislation you must be the teachers of the world, which is expecting from you some important lessons.

I will not trespass upon the time of so busy a man as yourself, and will therefore close by offering you

the compliments of all my family, to which M. de Condorcet requests me to add his. That your life and health may be prolonged is the unanimous prayer of all those who have ever heard of you. All who have had the satisfaction of knowing you add the hope that they may retain a place in your friendship. I venture to believe that I deserve this by the sincere attachment and veneration which I feel for you.

DUKE DE LA ROCHEFOUCAULD.

MCCCCII

FROM THE MARQUIS DE LAFAYETTE

PARIS, 10 February, 1786.

MY DEAR FRIEND:—With unspeakable satisfaction I have heard of your safe arrival in America, and heartily wished I had been mingled in the happy crowd of your fellow-citizens, when they saw you set your foot on the shore of Liberty. When your friends in Paris meet together, their first talk is of you. The wishes for you of a fortunate voyage, and pleasing sight of your family and friends, became a national sentiment. In my tour through Germany, I have been asked a thousand questions about you, when I felt equally proud and happy to boast of our affectionate intimacy.

Prussia and the Austrian dominions, with some parts of the German empire, the liberties of which have been so much spoken of in treaties and so little

felt by the people, have been the object of my very agreeable journey.[1] The first class of people are, I found, misinformed, with respect to American affairs. What may be wrong, they know perfectly, with an addition of a thousand falsehoods; and I wish no ground was left for our enemies to found those falsehoods upon. Although they have an enthusiastic admiration of the virtues displayed by America during the war, yet it is a matter of doubt with them (some sensible and feeling men excepted, particularly Prince Henry), if free constitutions can support themselves. The King of Prussia himself is blinded by habit and prejudices.

That monarch's temper is very bad; the Emperor's not very quiet. But the affairs of Great Britain being embarrassed, and our politics very pacific, I do not think any storm is to be feared. I have been happy to hear you have accepted the presidency of Pennsylvania. Nothing but that could speedily restore internal union, and remove the jealousies against neighbors. You will encourage federal measures, regulations for trade, a general system of militia; and the more I learn the opinions of foreign nations, the more I wish for such arragements, the necessity of which is obvious to almost every American. A committee, consisting of the intendants of finance, counsellors of state, and farmers-general, has been appointed to consider the affairs of American commerce. I shall attend

[1] Lafayette had recently returned from a tour through Germany. An account of this tour is contained in the *Diplomatic Correspondence*, Vol. X., p. 53.

regularly, but, as it is just begun, I cannot tell whether it will be very useful.

Enclosed I send you a vocabulary, which the Empress of Russia requests may be filled up with Indian words. You know her plan of a Universal Dictionary. I have thought you might send me the Delaware and Shawanese languages, with some others. Your Commissioners for Indian affairs, Colonel Harmar and General Butler, will be able to superintend the business, which it is important to have well done, as the Empress, although I think to very little purpose, sets a great value upon it.[1]

Be so kind as to remember me most affectionately to your family, daughter, grandsons, son-in-law, and to all our friends in Philadelphia. My heart has been long opened to you, and I need not assure you that, with the highest regard and tenderest affection, I have the honor, etc.,

LAFAYETTE.

MCCCCIII

TO JONATHAN WILLIAMS

PHILADELPHIA, 16 February, 1786.

DEAR JONATHAN:—I have written twice to you lately, but am obliged to trouble you with another line, to request from you a copy of the account you took during our last voyage of the temperature of

[1] For other particulars respecting these Indian vocabularies, see *Washington's Writings*, Vol. IX., pp. 195, 301, 306.

the water, for I cannot find that I have such a copy, and I want it to add to my nautical letter now in the press; so that I wish you to favor me with it as speedily as possible.

And now I am writing, it comes into my mind to enquire of you what light you find me to stand in among my country folks? My late friends Dr. Cooper and Mr. Quincy gave me friendly notices of the calumnies propagated against me, which appeared all to emanate from the Brantry focus. If they still exist, I would furnish you with a copy of my justification, which I sent to Dr. Cooper, but it probably did not reach Boston before his death. You see that, old as I am, I am not yet grown insensible with respect to reputation; though as I may possibly never be able again to visit Boston, how much soever I may wish to do it, and sometimes resolve upon it, my character there is of somewhat less importance.

How has my poor old sister gone through the winter? Tell me frankly whether she lives comfortably, or is pinched? For I am afraid she is too cautious of acquainting me with all her difficulties, though I am always ready and willing to relieve her when I am acquainted with them.

My love to your parents and the rest of the family, and to our young fellow traveller, who I hope will make a fine man.

I am ever, etc.,

B. Franklin.

MCCCCIV

TO DR. SHIPLEY, BISHOP OF ST. ASAPH

PHILADELPHIA, 24 February, 1786.

DEAR FRIEND:—I received lately your kind letter of November 27th. My reception here was, as you have heard, very honorable indeed; but I was betrayed by it, and by some remains of ambition, from which I had imagined myself free, to accept of the chair of government for the State of Pennsylvania, when the proper thing for me was repose and a private life. I hope, however, to be able to bear the fatigue for one year, and then to retire.

I have much regretted our having so little opportunity for conversation when we last met.[1] You could have given me information and counsels that I wanted, but we were scarce a minute together without being broken in upon. I am to thank you, however, for the pleasure I had after our parting, in reading the new book[2] you gave me, which I think generally well written and likely to do good; though the reading time of most people is of late so taken up with newspapers and little periodical pamphlets, that few nowadays venture to attempt reading a quarto volume. I have admired to see that, in the last century, a folio, *Burton on Melancholy*, went through six editions in about twenty years. We have, I believe, more readers now, but not of such large books.

You seem desirous of knowing what progress we

[1] At Southampton, previous to Dr. Franklin's embarking for the United States.—W. T. F.

[2] Paley's *Moral Philosophy*.—W. T. F.

make here in improving our government. We are, I think, in the right road of improvement, for we are making experiments. I do not oppose all that seem wrong, for the multitude are more effectually set right by experience, than kept from going wrong by reasoning with them. And I think we are daily more and more enlightened; so that I have no doubt of our obtaining in a few years as much public felicity as good government is capable of affording.

Your newspapers are filled with fictitious accounts of anarchy, confusion, distresses, and miseries we are supposed to be involved in, as consequences of the revolution; and the few remaining friends of the old government among us take pains to magnify every little inconvenience a change in the course of commerce may have occasioned. To obviate the complaints they endeavor to excite, was written the enclosed little piece, from which you may form a truer idea of our situation, than your own public prints would give you. And I can assure you that the great body of our nation find themselves happy in the change, and have not the smallest inclination to return to the domination of Britain. There could not be stronger proof of the general approbation of the measures that promoted the change, and of the change itself, than has been given by the Assembly and Council of this State, in the nearly unanimous choice of their governor, of one who had been so much concerned in those measures; the Assembly being themselves the unbribed choice of the people, and therefore may be truly supposed of the same sentiments. I say nearly unanimous, because, of

between seventy and eighty votes, there were only my own and one other in the negative.

As to my domestic circumstances, of which you kindly desire to hear something, they are at present as happy as I could desire them. I am surrounded by my offspring, a dutiful and affectionate daughter in my house, with six grandchildren, the eldest of whom you have seen, who is now at a college in the next street, finishing the learned part of his education; the others promising, both for parts and good dispositions. What their conduct may be when they grow up and enter the important scenes of life, I shall not live to *see*, and I cannot *foresee*. I therefore enjoy among them the present hour, and leave the future to Providence.

He that raises a large family does, indeed, while he lives to observe them, *stand*, as Watts says, *a broader mark for sorrow*; but then he stands a broader mark for pleasure too. When we launch our little fleet of barks into the ocean, bound to different ports, we hope for each a prosperous voyage; but contrary winds, hidden shoals, storms, and enemies come in for a share in the disposition of events, and though these occasion a mixture of disappointment, yet, considering the risk where we can make no insurance, we should think ourselves happy if some return with success. My son's son, Temple Franklin, whom you have also seen, having had a fine farm of six hundred acres conveyed to him by his father when we were at Southampton, has dropped for the present his views of acting in the political line, and applies himself ardently to the

study and practice of agriculture. This is much more agreeable to me, who esteem it the most useful, the most independent, and therefore the noblest of employments. His lands are on navigable water, communicating with the Delaware, and but about sixteen miles from this city. He has associated to himself a very skilful English farmer lately arrived here, who is to instruct him in the business, and partakes for a term of the profits, so that there is a great apparent probability of their success.

You will kindly expect a word or two concerning myself. My health and spirits continue, thanks to God, as when you saw me. The only complaint I then had does not grow worse, and is tolerable. I still have enjoyment in the company of my friends, and, being easy in my circumstances, have many reasons to like living. But the course of nature must soon put a period to my present mode of existence. This I shall submit to with the less regret, as, having seen during a long life a good deal of this world, I feel a growing curiosity to be acquainted with some other; and can cheerfully, with filial confidence, resign my spirit to the conduct of that great and good Parent of mankind, who created it, and who has so graciously protected and prospered me from my birth to the present hour. Wherever I am, I hope always to retain the pleasing remembrance of your friendship, being with sincere and great esteem, my dear friend, yours most affectionately,

B. FRANKLIN.

P. S.—We all join in respects to Mrs. Shipley, and best wishes for the whole amiable family.

MCCCCV

PRINTING TYPES MADE AT PASSY

PHILADELPHIA, 25 February, 1786.

I do hereby certify to whom it may concern, that the printing types with which I have furnished Mr. Francis Child, contained in fifteen boxes, marked B. F. No. 9, 10, 23, 24, 25, 26, 27, 28, 32, 33, 38, 53, 54, 59, 60, were made in my house at Passy, by my servants for my use, and were never the property of any European letter-founder, manufacturer or merchant whatsoever.

B. FRANKLIN,
Late Minister for the United States at the Court of France.

MCCCCVI

TO MR. GRAND, THE AMSTERDAM BANKER

PHILADELPHIA, 5 March, 1786.

DEAR FRIEND:—Since my last, which was of Jan. 29th, I have had the great pleasure of receiving yours of Oct. 10, '85, by which I learned that yourself and the good family continued well. The vessel from Havre, after a long passage of about twelve weeks, arrived at last with all my things in pretty good order, and sundry parcels of books, etc., from you, when I had almost given over all hopes of seeing them ever again; so that I now find myself happily situated in my own house, surrounded by my off-

spring, with all my playthings and amusements about me, and my malady not augmented, but still continuing tolerable.

I have drawn upon you lately for 1,754*l.* 10 tournois, in favor of Ross and Vaughan. My former drafts since my arrival here were for £200 sterling, 3,110 livres tournois, and £500 sterling. I hope now to receive soon your account completing the last year, and that you have been paid my dividend on my stock in the Funds.

I suppose my grandson will write to you by this conveyance, though he is now very busy in preparing to settle on his farm, which is a very good one, about sixteen miles from this town, water carriage to his door, very convenient for bringing his produce to market. Benjamin is at college, and applies close to his studies. He presents his respects.

I rejoice to hear that the Emperor and the Dutch have accommodated their differences. Long may the peace of Europe continue! For I am of opinion that there never was a bad peace, nor a good war. And I think your minister, who is so expert in composing quarrels and preventing wars, the great blessing of this age. The Devil must send us three or four heroes before he can get as much slaughter of mankind done as that one man has prevented.

I do not understand how Caliastro was involved in the affair of the Cardinal, and have some curiosity to know his history when it shall be developed.

The English papers, not only sent me gratis, as you observe, to Algiers, but they are sending all the United States to destruction. By their accounts you

would think we were in the utmost distress, in want of every thing, all in confusion, no government, and wishing again for that of England. Be assured, my friend, that these are all fictions, mere English wishes, not American realities. There are some few faults in our Constitutions, which is no wonder, considering the stormy season in which they were made, but those will soon be corrected. And for the rest, I never saw greater and more indubitable marks of public prosperity in any country. The produce of our agriculture bears a good price, and is all paid for in ready hard money, all the laboring people have high wages, everybody is well clothed and well lodged, the poor provided for or assisted, and all estates in town and country much increased in value. As to wishing for the English government, we should as soon wish for that of Morocco.

Be so good as to forward the letters you will receive herewith, and charge me with the expense. My love to all the good family, and believe me ever, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCCVII

TO M. LE VEILLARD

PHILADELPHIA, 6 March, 1786.

MY DEAR FRIEND:—I received and read with great pleasure your kind letter of October 9th. It informed me of your welfare, and that of the best of good women, and of her amiable daughter, who I think

will tread in her steps. My effects came all in the same ship, in good order; and we are now drinking every day *les eaux épurées de Passy* with great satisfaction, as they kept well, and seem to be rendered more agreeable by the long voyage.

I am here in the bosom of my family, and am not only happy myself, but have the felicity of seeing my country so. Be assured that all the stories spread in the English papers of our distresses, and confusions, and discontents with our new governments, are as chimerical as the history of my being in chains at Algiers. They exist only in the wishes of our enemies. America never was in higher prosperity, her produce abundant and bearing a good price, her working people all employed and well paid, and all property in lands and houses of more than treble the value it bore before the war; and, our commerce being no longer the monopoly of British merchants, we are furnished with all the foreign commodities we need, at much more reasonable rates than heretofore. So that we have no doubt of being able to discharge more speedily the debt incurred by the war, than at first was apprehended.

Our modes of collecting taxes are indeed as yet imperfect, and we have need of more skill in financiering; but we improve in that kind of knowledge daily by experience. That our people are contented with the revolution, with their new constitutions, and their foreign connections, nothing can afford a stronger proof than the universally cordial and joyous reception with which they welcomed the return of one that was supposed to have had a considerable

share in promoting them. All this is in answer to that part of your letter in which you seem to have been too much impressed with some of the ideas which those lying English papers endeavor to inculcate concerning us.

I am astonished by what you write concerning the *Prince Evêque*. If the charges against him are made good, it will be another instance of the truth of those proverbs which teach us, that *Prodigality begets necessity*, that *Without economy no revenue is sufficient*, and that *It is hard for an empty sack to stand upright*.

I am glad to hear of the marriage of Mademoiselle Brillon; for every thing that may contribute to the happiness of that beloved family gives me pleasure. Be pleased to offer them my felicitations, and assure them of my best wishes.

Will you also be so good as to present my respectful compliments to Madame la Duchesse d'Enville, and to M. le Duc de la Rochefoucauld? You may communicate the political part of this letter to that excellent man. His good heart will rejoice to hear of the welfare of America.

I made no progress when at sea in the history you mention [1]; but I was not idle there, having written three pieces, each of some length: one on nautical matters; another on chimneys; and a third a description of my vase for consuming smoke, with directions for using it. These are all now printing in the *Transactions* of our Philosophical Society, of which I hope soon to send you a copy.

B. FRANKLIN.

[1] Memoirs of his own life.

My grandsons present their compliments. The eldest is very busy in preparing for a country life, being to enter upon his farm the 25th instant. It consists of about six hundred acres, bounding on navigable water, sixteen miles from Philadelphia. The youngest is at college, very diligent in his studies. You know my situation, involved in public cares; but they cannot make me forget that you and I love one another, and that I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCCVIII

TO MR. GRAND

PHILADELPHIA, 20 March, 1786.

DEAR FRIEND:—I wrote to you on the 5th instant, and the vessel not being yet gone, I add a few lines to give you a little trouble in requesting you to receive and divide among some of my friends a few hams (jambons) and some cakes of our soap. The hams are in a cask, and have labels to denote who are [*sic*] they are for. I send them, because strangers here admire them for their good taste and the sweetness of their fat, which is all made by their feeding on maize, and I hope they will come good to hand. The soap is thought to be the best in the world, for shaving and for washing chinces, [*sic*] and other things of delicate colors. Please to divide them as follows:

	CAKES		CAKE
For Made. Grand.....	2	M. Chabanis.....	1
Sir Geo. Grand.....	2	M. Le Roy.....	1
Yourself.....	3	M. Roger at McSorin's.	1
M. Le Veillard.....	2	M. Dailly.....	1
M. Brillon.....	2	M. Bougon.....	1
M. de Chaumont.....	2	Abbé Cholut.....	1
Made. Helvetius.....	2	M. Cholut.....	1
Abbé de La Roche....	1	Abbé Arnaud.....	1
Abbé Morellet.....	1	Mon Epouse.....	1
	17		9
			17
			26

This kind of soap is not made for sale in this country at present, and perhaps I may not be able to procure any more of it.

I must also request you to purchase and send me M. de La Lande's *History of All the Navigable Canals in the World.* It is said to be in folio with plates.

I wish you and yours all sorts of felicity, being ever, my dear friend, yours most affectionately,

B. FRANKLIN.

Don't forget to charge me with the expenses I put you to for carriage, postage, etc.

MCCCCIX

TO BENJAMIN RUSH

PHILADELPHIA, March, 1786.

MY DEAR FRIEND:—During our long acquaintance you have shown many instances of your regard for

me; yet I must now desire you to add one more to the number, which is, that, if you publish your ingenious discourse on "The Moral Sense," you will totally omit and suppress that most extravagant encomium on your friend Franklin, which hurt me exceedingly in the unexpected hearing, and will mortify me beyond conception if it should appear from the press. Confiding in your compliance with this earnest request, I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.[1]

MCCCCX

TO THOMAS JEFFERSON

PHILADELPHIA, 20 March, 1786.

SIR:—I received your favor of October 5th by Messrs. Fitzhughs, with the letters and pacquets you were so kind as to forward to me by those gentlemen, who have wintered with us, and are but lately set out for Virginia. I will read de Plessis' papers as soon as I can find a little time, and say something of them in a future letter.

[1] Dr. Rush replied to this letter as follows: "Agreeably to your request, I have suppressed the conclusion of my oration, but I cannot bear to think of sending it out of our State or to Europe without connecting it with your name. I have therefore taken the liberty of inscribing it to you by a simple dedication, of which the enclosed is a copy. And, as you have never in the course of our long acquaintance refused *me* a single favor, I must earnestly insist upon your adding to my great and numerous obligations to you the permission, which I now solicit, to send my *last* as I did my *first* publication into the world under the patronage of your name."—*March 11, 1786.*

The discourse here alluded to, *On the Influence of Physical Causes on the Moral Faculty*, was delivered before the American Philosophical Society, February 27, 1786, and published soon afterwards.

As to public affairs, the Congress has not been able to assemble more than seven or eight States during the whole winter, so the treaty with P. remains still unratified, though there is no doubt of its being done soon, as a full Congress is expected next month. The disposition to furnish Congress with ample powers augments daily, as people become more enlightened, and I do not remember ever to have seen during my long life more signs of public felicity than appear at present throughout these States; the cultivators of the earth who make the bulk of our nation having had good crops, which are paid for at high prices with ready money, the artisans too receive high wages, and the value of all real estate is augmented greatly. Merchants and shopkeepers, indeed, complain that there is not business enough, but this is evidently not owing to the fewness of buyers, but to the too great number of sellers, for the consumption of goods was never greater, as appears by the dress, furniture, and manner of living of all ranks of the people.

As to myself, I am, agreeable to your kind wishes, happy in the bosom of my friends and family, enjoying as good health as ever, the stone excepted, which does not grow worse. Be pleased to present my affectionate respects to the good Countess d'Honditot, who, you say, does me the honor to enquire concerning me, and I pray you to assure all other enquiring friends that I retain, and shall ever retain, the deepest impression of their many kindnesses to me while I resided among them. I hope your health is fully established. My best wishes attend you, being with

great and sincere esteem, dear sir, your most obedient and most humble servant,

B. FRANKLIN.

MCCCCXI

TO GENERAL ROBERDEAU

PHILADELPHIA, 23 March, 1786.

DEAR SIR:—I received your favor, proposing to sell me your plantation in this country, which I should have answered sooner if I could sooner have been informed of its qualities; quantity of acres; price, and the rent it affords; for not being in a condition to enjoy a country seat, since my malady, the stone, does not permit me to ride either on horseback or in a wheel carriage, I have no inducement to purchase land but a prospect of its producing greater profit than money at interest. It is but the other day that the gentleman you referred me to called to give me what information he could, which having considered I apprehend the purchase will not suit my views, so that I must wish you a better chapman.

With great esteem, I have the honor to be, dear sir, your most obedient and most humble servant,

B. FRANKLIN.

MCCCCXII

TO M. L'ABBÉ DE LA ROCHE

PHILADELPHIA, April, 1786.

MY DEAR FRIEND:—I confess that I am a little [*mutilated*] as a correspondent. I wish to hear from

my friends by every pacquet, and presume they may excuse me if I write once a year. The only apology I can make, and that not a very good one, is, that indolence is natural to age, and that I am too much engaged in business. But I have too long omitted writing to my friends at Auteuil. I throw myself on their good nature and beg their forgiveness. The continued kindness towards me expressed in their letters affected me much, and I never perused those letters but with fresh pleasure mixed with the remembrance of the many delightful hours I passed in that sweet society, and the regret with which I find myself forever separated from it.

I wrote in November last to the Archbishop of Bordeaux, and executed his commission so far as to send him the seeds he desired, which I hope arrived in good order, though I have not since heard from him. The kind of wooden houses he wrote for are not usually made here, though possibly they may at Boston. But that being remote from me, so that I could not have the least inspection of the workmen, I have advised his writing to the French consul who resides there, and send him an exact plan of the buildings with all their proportions; the description in the letter you sent me not being sufficiently precise to be intelligible by our ignorant carpenters, who therefore could not compute the cost.

It is rare that we see the cardinal bird so far north as Pennsylvania. Those sent here from Virginia generally perish by the way, being a tender bird and not well bearing the sea, so that we have not hitherto been able to get any for Benjamin to take care of.

Mr. Alexander has, I understand, sent several for our dame in his tobacco ships to France, which never arrived, and unless a friend was going in the ship who would take more than common care of them, I suppose one might send a hundred without landing one alive. They would be very happy, I know, if they were once under her protection; but they cannot come to her, and she will not come to them. She may remember the offer I made her of 1,000 acres of woodland, out of which she might cut a great garden and have 1,000 aviaries if she pleased. I have a large tract on the Ohio where cardinals are plenty. If I had been a cardinal myself perhaps I might have prevailed with her. I am much obliged by her kind offer of sending robes, hats, bonnets, and other French modes to my good daughter, the mother of Benjamin, to whose filial care of me and attention to me I owe much of my present happiness. Enclosed I send her commission, which if notre dame will be so good as to execute with her usual good taste and judgment, Mr. Grand will immediately pay the bill, and I shall be very thankful.

You have, as we hear, an assembly of notables to confer and advise on the amendment of your laws and constitutions of government. It is remarkable that we should have the same project here at the same time. Our Assembly is to meet next month. I pray God that success may attend the deliberations of both assemblies, for the happiness of both nations.

My health continues much in the same state as when I left France, my old malady not growing worse, so that I am able to go through a good deal

of business, and enjoy the conversation of my friends as usual.

Your project of transporting rather than drowning the good lady's eighteen cats, is very humane. The kind treatment they experience from their present mistress may possibly cause an unwillingness to hazard the change of situation; but if they are of the *Angora* breed, and can be informed how two of their tribe brought over by my grandson are caressed and almost adored here, they may possibly be induced to transport themselves rather than risque any longer the persecution of the Abbé's, which sooner or later must end in their condemnation. Their *requête* is admirably well written; but their continually increasing in number will in time make their cause insupportable: their friends should, therefore, advise them to submit voluntarily either to transport or to castration.

The remarks of a grammarian on the particle *on*, are full of wit and just satire. My friends here who understand French have been highly entertained with them. They will do good if you publish them. They have had some effect upon me, as you will see in this letter; for when I spoke of the prosperous state of our affairs here, fearing you might suppose that I thought all well because I myself had a profitable place, I found it proper to add other reasons.

Your taking the pains of translating the addresses is a strong mark of the continuance of your friendship for me, which gave me as much pleasure as the addresses themselves had done, and that, you may well believe, was not a little: for indeed the recep-

tion I met with on my arrival far exceeded my expectation. Popular favor, not the most constant thing in the world, still continues with regard to me, my election to the presidentship for the second year being unanimous. Whether it will hold out to the end of the third, is uncertain. A man in high place has so many occasions, which he cannot avoid, of disobliging, if he does his duty; and those he disobliges have so much more resentment, than those he obliges has gratitude, that it often happens when he is strongly attacked he is weakly defended. You will, therefore, not wonder if you should hear that I do not finish my political career with the same eclat that I began it.

It grieves me to learn that you have been afflicted with sickness. It is, as you say, the condition of living, but it seems a hard condition. I sometimes wonder that all good men and women are not by Providence kept free from pain and disease. In the best of all possible worlds, I should suppose it must be so; and I am piously inclined to believe that this world's not being better made was owing merely to the badness of the materials.

Embrace for me tenderly the good dame, whom I love as ever. I thought to have written to her and to Mr. Cab nis [Cabenis ?] by the pacquet, but must defer it to the next for want of time. I am, my dear friend, with sincere esteem and affection, yours ever,

B. FRANKLIN.

Please to present my respects to M. Le Roy and others of the Wednesday's dining party, and love to

the Stars and to your family. My grandson joins me in best wishes.

MCCCCXIII

TO MRS. JANE MECOM

PHILADELPHIA, 8 April, 1786.

DEAR SISTER:—I received your kind letter of the 21st of February; I have also received the box of soap, the substance of which appears to be very good, but its consistence had probably been affected by the frost, for unless very tenderly and cautiously handled, the cakes would crumble into little pieces between one's fingers. However, having an opportunity of sending some to my friends, in France, who much admired what I had of you formerly, I with much difficulty took out 22 cakes, which I wrapped separately in spongy paper, hoping that, as they dried, they might consolidate, and the infinite number of little cracks that appeared in them be closed, and the parts again united, and so I sent them away in a small box. But having since dried a cake very gradually, I fear I shall be disappointed in that expectation, for it seems as crumbly as before, and comes to pieces in the water, so that I am sorry that I sent any of it away, till I had consulted you upon it, who probably must have met with the like accident before, and might know of some remedy.

Business having prevented my writing, Sally has been making an experiment. She put 3 or 4 pounds of the crumbs, about the size of chestnuts, into a

little kettle with some water, and over a slow fire, melted them together, and when the whole was uniformly fluid, laded it out into little paper pans of the size of the cakes. These grew stiff when cold, but were rather soft, and shrunk greatly in drying. Being now dry, they are exceedingly hard, close-grained, and solid, and appear to have all the qualities of excellent crown soap. Only in drying they are twisted and warped out of shape; wherefore I have not continued the process on the rest of the box, but was resolved to send you this particular account, thinking you may possibly teach me a better method.

Capt. All is just arrived here, who has given me the pleasure of hearing that you were very well a few weeks since; he says he does not remember you to have ever looked better, or to be more active. I continue much as I have been for some time past, and am always your affectionate brother,

B. FRANKLIN.

Draw upon me for the expense of the soap, and your bill shall be paid on sight.

MCCCCXIV

TO MRS. JANE MECOM

PHILADELPHIA, April 25, 1786.

DEAR SISTER:—I wrote you a long letter lately about the soap, which I supposed to have become crumbly by means of frost; and acquainting you that we had made some of the crumbs solid again by

remelting them with water. I further requested your advice whether to re-melt it all, and in what manner. That you may better understand the case, I send you herewith some of the crumbly soap, and a piece of that which we consolidated by remelting the crumbs. But since I wrote that letter, I find that a few of the cakes which appeared ready to fall to pieces, being set separately on their edges upon a shelf in a closet to dry gradually, seem now to have become very firm, and I have therefore this day taken all out of the box, and set them to dry in the same slow manner; perhaps they may all grow firm, and make the re-melting unnecessary.

I send also with this one of the books in which is printed my proposal of a new alphabet, which you desired to see.

I am ever your affectionate brother,

B. FRANKLIN.

MCCCCXV

TO MRS. MARY HEWSON

PHILADELPHIA, 6 May, 1786.

MY DEAR FRIEND:—A long winter has past, and I have not had the pleasure of a line from you, acquainting me with you and your children's welfare, since I left England. I suppose you have been in Yorkshire, out of the way and knowledge of opportunities; for I will not think that you have forgotten me.

To make me some amends, I received a few days

past a large packet from Mr. Williams, dated September, 1776, near ten years since, containing three letters from you, one of December 12, 1775. This packet had been received by Mr. Bache, after my departure for France, lay dormant among his papers during all my absence, and has just now broke out upon me, *like words* that had been, as somebody says, *congealed in northern air.* Therein I find all the pleasing little family history of your children; how William had begun to spell, overcoming, by strength of memory, all the difficulty occasioned by the common wretched alphabet, while you were convinced of the utility of our new one; how Tom, genius-like, struck out new paths, and, relinquishing the old names of the letters, called U *bell*, and P *bottle;* how Eliza began to grow jolly, that is, fat and handsome, resembling aunt Rooke, whom I used to call *my lovely.* Together with all the *then* news of Lady Blount's having produced at length a boy; of Dolly's being well, and of poor good Catherine's decease; of your affairs with Muir and Atkinson, and of their contract for feeding the fish in the channel; of the Vinys and their jaunt to Cambridge in the long carriage; of Dolly's journey to Wales with Mrs. Scott; of the Wilkeses, the Pearces, Elphinstones, etc.;— concluding with a kind of promise that, as soon as the ministry and Congress agreed to make peace, I should have you with me in America. That peace has been some time made; but, alas! the promise is not yet fulfilled.

I have found my family here in health, good circumstances, and well respected by their fellow-

citizens. The companions of my youth are indeed almost all departed, but I find an agreeable society among their children and grandchildren. I have public business enough to preserve me from *ennui*, and private amusement besides in conversation, books, my garden, and *cribbage*. Considering our well-furnished, plentiful market as the best of gardens, I am turning mine, in the midst of which my house stands, into grass plots and gravel walks, with trees and flowering shrubs. Cards we sometimes play here, in long winter evenings; but it is as they play at chess, not for money, but for honor, or the pleasure of beating one another. This will not be quite a novelty to you, as you may remember we played together in that manner during the winter at Passy. I have indeed now and then a little compunction in reflecting that I spend time so idly; but another reflection comes to relieve me, whispering: "*You know that the soul is immortal; why then should you be such a niggard of a little time, when you have a whole eternity before you?*" So, being easily convinced, and, like other reasonable creatures, satisfied with a small reason, when it is in favor of doing what I have a mind to, I shuffle the cards again, and begin another game.

As to public amusements, we have neither plays nor operas, but we had yesterday a kind of oratorio, as you will see by the enclosed paper; and we have assemblies, balls, and concerts, besides little parties at one another's houses, in which there is sometimes dancing, and frequently good music; so that we jog on in life as pleasantly as you do in England; any-

where but in London, for there you have plays performed by good actors. That, however, is, I think, the only advantage London has over Philadelphia.

Temple has turned his thoughts to agriculture, which he pursues ardently, being in possession of a fine farm that his father lately conveyed to him. Ben is finishing his studies at college, and continues to behave as well as when you knew him, so that I think he will make you a good son. His younger brothers and sisters are also promising, appearing to have good tempers and dispositions, as well as good constitutions. As to myself, I think my general health and spirits rather better than when you saw me. The particular malady I then complained of continues tolerable. With sincere and very great esteem, I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

P. S.—My children and grandchildren join with me in best wishes for you and yours. My love to my godson, to Eliza, and to honest Tom. They will all find agreeable companions here. Love to Dolly, and tell her she will do well to come with you.

MCCCCXVI

TO MRS. MARY HEWSON

PHILADELPHIA, 30 May, 1786.

DEAR POLLY:—I have just received your kind letter of April 2d, which made me some amends for

your long silence. By the last ship from hence I wrote to you acknowledging the receipt of some very old letters, when I was sorry I could mention none of later date. I have, however, no right to complain, being so bad a correspondent myself. But my last was a long one, and I hope you have received it.

You seem now inclined to come over, if you could meet with a captain that you know and like. We mentioned it to Captain Falconer. He goes no more to sea, but strongly recommends Captain Willet, who carries this letter, as a good man and excellent seaman. His ship is the *Harmony*, which lately brought over Mr. and Mrs. Bingham. Mr. Williams will hardly, I doubt, be with you in time this year to assist in your embarkation; but, if you apply to Messrs. Johnson & Co., American merchants, to whom I write, I am persuaded they will make the bargain for you, and assist you with their advice in every circumstance.

Temple, who presents his respects, has, however, no hopes of your coming. He says you were so long irresolute and wavering about the journey to Paris, that he thinks it unlikely you will decide firmly to make the voyage to America.

I enclose a truer state of affairs in our country than your public prints will afford you, and I pray "God guide you."

This family are all well, and join in love to you and yours with your affectionate

B. FRANKLIN.

P. S.—Captain Willet is to leave London on his return about the 1st of August. Your *son* Ben, and

all his family, join in the hope of your resolving to come over.[1]

MCCCCXVII

FROM WILLIAM COCKE

STATE OF FRANKLIN, 15 June, 1786.

SIR:—I make no doubt but you have heard that the good people of this country have declared themselves a separate State from North Carolina; and that, as a testimony of the high esteem they have for the many important and faithful services you have rendered to your country, they have called the name of their State after you. I presume you have also heard the reasons on which our separation is founded, some of which are as follows: that North Carolina had granted us a separation on certain well-known conditions, expressed in an act of the General Assembly of that State, which conditions, we think, she had no right to break through without our consent, as well as the consent of Congress. We therefore determine strictly to adhere to the conditions expressed in said act, and doubt not but Congress will be uniform in their just demands, as well as honorable in complying with their resolve to confirm all the just claims of such persons as have purchased land under the laws of North Carolina, for which they have paid that State.

The confidence we have in the wisdom and justice of the United States inclines us to leave every matter

[1] Mrs. Hewson soon afterwards came over with her family to America, and established herself at Philadelphia.

of dispute to their decision, and I am expressly empowered and commanded to give the United States full assurance that we shall act in obedience to their determination, provided North Carolina will consent that they shall become the arbiters. I had set out with the intention to wait on Congress to discharge the duties of the trust reposed in me, but I am informed that Congress will adjourn about the last of this month; and I will thank you to be so kind as to favor me with a few lines by the bearer, Mr. Rogers, to inform me when Congress will meet again and shall be happy to have your sentiments and advice on so important a subject. I have the honor to be, etc.,

WILLIAM COCKE.

MCCCCXVIII

TO CHARLES THOMSON

PHILADELPHIA, 18 June, 1786.

DEAR SIR:—I received in time your favor of the 15th past, with an extract from the contract made at Versailles, February 21, 1783. This extract being a translation, I have spent some time in searching for a copy. I supposed I might have the original, but have not yet met with it, and will now no longer delay my answer, which is, that, if the translation be just, and the original mentions three millions as given before the treaty of 1778, it has either been a mistake of one million, or the million received from the Farmers-General is included as a *don gratuit* of

the king, in which latter case, as you observe, they owe us for the tobacco received, in part. For I think it a certainty that no money was received from the crown which did not go directly into the hands of Mr. Grand; and though he accounts for three millions received before 1778, one of them is the million received of the Farmers-General.

An explanation and adjustment of this matter may, I make no doubt, be easily obtained by writing to Mr. Grand and Mr. Jefferson. There can be no error of that magnitude in Mr. Grand's accounts, for they were rendered to the Commissioners from time to time, and settled while all the transactions were fresh in memory. And I am persuaded the minister will very readily either correct the error in the contract, or direct our demanding of the Farmers the value of the tobacco, as the case may be. With great and sincere esteem, I have the honor to be sir, etc.,

B. FRANKLIN.

MCCCCXIX

TO NOAH WEBSTER

PHILADELPHIA, 18 June, 1786.

SIR:— I received the letter you did me the honor of writing to me the 24th past with the scheme enclosed of your reformed alphabet. I think the reformation not only necessary, but practicable; but have so much to say to you on the subject, that I wish to see and confer with you upon it, as that

would save much time in writing; sounds, till such an alphabet is fixed, not being easily explained or discoursed of clearly upon paper.

I have formerly considered this matter pretty fully, and contrived some of the means of carrying it into execution, so as gradually to render the information general. Our ideas are so nearly similar, that I make no doubt of our easily agreeing on the plan; and you may depend on the best support I may be able to give it, as a part of your *Institute*,[1] of which I wish you would bring with you a complete copy, having as yet seen only a part of it. I shall then be better able to recommend it as you desire. Hoping to have soon the pleasure of seeing you, I do not enlarge, but am with sincere esteem, sir, etc.,

B. FRANKLIN.

MCCCCXX

TO M. LEROY

PHILADELPHIA, 27 June, 1786.

DEAR FRIEND:—My time being much taken up with the business of my present station, I can now only write a short letter; but in the volume of our *Transactions*, which I send you herewith, you will find a very long letter, which I wrote to you at sea when on my passage hither. I enclose some papers relating to your affair with Wharton. The promise therein made, though repeatedly urged by me and

[1] *Grammatical Institute of the English Language*, published in 1784.

Mr. Vaughan, was never fulfilled. The father is since striken with palsy, and the son is in a worse situation—being, as it is said, an habitual drunkard. In short, I believe nothing is to be done with him by fair means, and unless you send a power of attorney to sue for your demand, or come yourself, I am afraid you will never get any thing. You are upon the list of persons nominated to be members of our Philosophical Society, and will be chosen undoubtedly at the next fall meeting, which perhaps will not be till January next. I have given them the German edition of your pieces, which you presented to them; and have told them that I have some other presents from you which I shall deliver as soon as I can put my things in order so as to find them.

Except that I am too much encumbered with business, I find myself happily situated here, among my numerous friends, placed at the head of my country by its unanimous voice, in the bosom of my family, my offspring to wait on me and nurse me, in a house I built twenty-three years since to my mind.

My malady, the stone, indeed continues, but does not grow worse; and human nature is subject to so many more terrible evils, that I ought to be content with the share allotted to me. I rejoice to hear that the difference between the Emperor and your country is accommodated, for I love peace. You will see in the treaty we have made with Prussia some marks of my endeavors to lessen the calamities of future wars. Present my humble respects, and best wishes to your good master, if you think they may not be

unacceptable, and believe me ever, with sincere affection, your old true friend and humble servant,

B. FRANKLIN.

If you send a power of attorney, let it be to Mr. Samuel Vaughan, jr.

MCCCCXXI

TO MRS. JANE MECOM

PHILADELPHIA, 4 July, 1786.

—— You need not be concerned, in writing to me, about your bad spelling; for, in my opinion, as our alphabet now stands, the bad spelling, or what is called so, is generally the best, as conforming to the sound of the letters and of the words. To give you an instance. A gentleman received a letter, in which were these words: *Not finding Brown at hom, I delivered your meseg to his yf.* The gentleman, finding it bad spelling, and therefore not very intelligible, called his lady to help him read it. Between them they picked out the meaning of all but the *yf*, which they could not understand. The lady proposed calling her chambermaid, "because Betty," says she, "has the best knack at reading bad spelling of any one I know." Betty came, and was surprised that neither sir nor madam could tell what *yf* was. "Why," says she, "*yf* spells *wife;* what else can it spell?" And, indeed, it is a much better, as well as shorter method of spelling *wife*, than *doubleyou, i, ef, e*, which in reality spell *doubleyifey.*

There is much rejoicing in town to-day, it being

the anniversary of the Declaration of Independence, which we signed this day ten years, and thereby hazarded lives and fortunes. God was pleased to put a favorable end to the contest much sooner than we had reason to expect. His name be praised. Adieu,

B. FRANKLIN.

MCCCCXXII

TO CHARLES THOMSON, SECRETARY OF CONGRESS

PHILADELPHIA, 6 July, 1786.

SIR:—This will be delivered to you by Scotosh, son to the half-king of the Wyondot Nation, who is well recommended as having been always very friendly to our people, and who, with his suite, goes to New York on a visit to Congress. I make no doubt but the same care will be taken of them, that they may be accommodated comfortably while at New York, as they have experienced here. With great esteem, I have the honor to be, sir, your most obedient and most humble servant,

B. FRANKLIN.

Endorsed: Read 12 July, 1786. Referred to Secretary at War to report.

MCCCCXXIII

TO JOHN JAY

PHILADELPHIA, 6 July, 1786.

SIR:—The enclosed paper will inform you of what has passed here between Scotosh, a chief of the

Wyondot Nation, and this government, on his way to Congress: He is recommended as having been always very friendly to our people, and the Council have defrayed the expense of him and his company here and to New York, where, as Col. Harmar informs, he is to visit Congress. He expresses a strong desire of going to France; but as it must cost something considerable to support him thither, there, and back again, we have given him no expectation that the Congress will approve of it; but if it could be well afforded, I should conceive it might be of use to our affairs in that part of the country, if, after viewing the court and troops and population of France, he should return impressed with a high idea of the greatness and power of our ally, and thence be able to influence the Western Indians with opinions proper to defeat the insinuations of the English who are posted on those frontiers.

With great regards, I have the honor to be, sir, your most obedient and most humble servant,

B. FRANKLIN.

[*Enclosure*]

PHILADELPHIA, July 3, 1786.

Scotosh, an Indian Chief of the Wyondots, and son to the half-king of that nation, visited the President, accompanied by Mons. Pierre Drouillier, a French trader of Detroit, as Interpreter, who acquainted the President that the Chief had a few words to deliver from his Father.

The Chief then taking in his hand three strings of white wampum, said:

"Brothers, I come from my Father to speak to you of good and bad affairs; good and bad news my Father now speaks.

"'My Brothers:

"'I inform you that among my people all is good; we have no bad affairs, no bad news, to relate to you. Nor have I heard of any bad news from Detroit. [*A string.*]

"'Near the Falls I have heard there are bad affairs; but that country is far from mine. There are some bad people thereabouts, vagabonds from different nations, but none of my people are among them. [*A string.*]

"'My Brothers:

"'I shall be very glad to hear that the measuring the Indian country may be delayed. For the bad people will, I fear, take occasion from the measuring to do more mischief. Perhaps the measurers will be killed. And it would give pain to me and my nation to hear such bad news.'"

[*A string.*]

The Chief then spoke as from himself:

"Brothers:

"You have made a good clear road for us to come to you without danger or inconvenience. I have found it good and safe, having been kindly treated everywhere by your people. We will do the same for them, when they have occasion to pass through our country.

"Brothers:

"I request you would as soon as possible let me know what you think of the words I brought from my Father, that I may acquaint him therewith, and that mischief to the measurers may be prevented."

He added that he was going to New York to visit the Congress, and that he had a curiosity to cross the seas and see France.

The President replied that he would communicate the words to the Council, and on Wednesday give an answer. He had no expectation of so much formality in this visit, or he should have requested a meeting of the Council to receive it.

July 5, 1786.

Scotosh, son to the half-king of the Wyondots, with Mr. Drouillier, his Interpreter, coming again to the President's house, the President spoke to him as follows:

"Brother:

"I have communicated to the Council the words you delivered to me from your Father, and we now return the answer I am about to give you to be sent him.

"'Our Brother:

"'We are glad to learn from you that there are no bad affairs in your country, and that all is well with you. We hope it may long so continue. [*A string.*]

"'Our Brother:

"'We know there are some bad people about the Falls, from whence we sometimes hear of mischief done by them. We are glad that none of our

friends, the Wyondots, are among them. For they will probably soon suffer for their evil actions. [*A string.*]

"'Our Brother:

"'This State of Pennsylvania measures no land but what has been fairly purchased of the Six Nations. The country you speak of is far beyond our limits, and the measuring of it under the direction of Congress. It is therefore with that great Council to consider your friendly advice on that subject.'" [*A string.*]

The President then acquainted Scotosh that, as he was going to New York, the Council had ordered some money to be given to him for his travelling expenses (which was accordingly done), and that the charge of their entertainment while here would also be defrayed; for which he returned hearty thanks. He was at the same time assured that we should endeavor always to keep the road between us as open, clear, and safe as he had found it.

MCCCCXXIV

TO NOAH WEBSTER

PHILADELPHIA, 9 July, 1786.

SIR:—I received your favor of the 23d past. I think with you that the lecturing on the language will be of great use in preparing the minds of people for the improvements proposed, and therefore would not advise your omitting any of the engagements you have made, for the sake of being here sooner

than your business requires—that is, in September or October next. I shall then be glad to see and confer with you on the subject, being with great esteem, sir, your humble servant,

B. FRANKLIN.

MCCCCXXV

TO MR. GRAND

PHILADELPHIA, 11 July, 1786.

SIR:—I send you enclosed some letters that have passed between the Secretary of Congress and me, respecting three millions of livres, acknowledged to have been received, before the treaty of February, 1778, as *don gratuit* from the king, of which only two millions are found in your accounts; unless the million from the Farmers-General be one of the three. I have been assured that all the money received from the king, whether as loan or gift, went through your hands; and as I always looked on the million we had of the Farmers-General to be distinct from what we had of the crown, I wonder how I came to sign the contract, acknowledging three millions of gift, when, in reality, there were only two, exclusive of that from the Farmers; and as both you and I examined the project of the contract before I signed it, I am surprised that neither of us took notice of the error.

It is possible that the million furnished ostensibly by the Farmers was in fact a gift of the crown, in which case, as Mr. Thomson observes, they owe us for the two shiploads of tobacco, which they re-

ceived on account of it. I most earnestly request of you to get this matter explained, that I may stand clear before I die, lest some enemy should afterwards accuse me of having received a million not accounted for. I am, etc.,

B. FRANKLIN.

MCCCCXXVI

TO BENJAMIN VAUGHAN

PHILADELPHIA, 31 July, 1786.

DEAR FRIEND:—I recollect that, when I had last the pleasure of seeing you at Southampton, now a twelvemonth since, we had some conversation on the bad effects of lead taken inwardly; and that at your request I promised to send you in writing a particular account of several facts I then mentioned to you, of which you thought some good use might be made. I now sit down to fulfil that promise.

The first thing I remember of this kind was a general discourse in Boston, when I was a boy, of a complaint from North Carolina, against New England rum, that it poisoned their people, giving them the dry belly-ache, with a loss of the use of their limbs. The distilleries being examined on the occasion, it was found that several of them used leaden still-heads and worms, and the physicians were of opinion, that the mischief was occasioned by that use of lead. The legislature of Massachusetts thereupon passed an act, prohibiting, under severe penalites, the use of such still-heads and worms thereafter.

In 1724, being in London, I went to work in the

printing-house of Mr. Palmer, Bartholomew Close, as a compositor. I there found a practice, I had never seen before, of drying a case of types (which are wet in distribution) by placing it sloping before the fire. I found this had the additional advantage, when the types were not only dried but heated, of being comfortable to the hands working over them in cold weather. I therefore sometimes heated my case when the types did not want drying. But an old workman, observing it, advised me not to do so, telling me I might lose the use of my hands by it, as two of our companions had nearly done, one of whom, that used to earn his guinea a week, could not then make more than ten shillings, and the other, who had the dangles, but seven and sixpence. This, with a kind of obscure pain, that I had sometimes felt, as it were in the bones of my hand when working over the types made very hot, induced me to omit the practice. But talking afterwards with Mr. James, a letter-founder in the same Close, and asking him if his people, who worked over the little furnaces of melted metal, were not subject to that disorder, he made light of any danger from the effluvia, but ascribed it to particles of the metal swallowed with their food by slovenly workmen, who went to their meals after handling the metal, without well washing their fingers, so that some of the metalline particles were taken off by their bread and eaten with it. This appeared to have some reason in it. But the pain I had experienced made me still afraid of those effluvia.

Being in Derbyshire at some of the furnaces for

smelting of lead ore, I was told that the smoke of those furnaces was pernicious to the neighboring grass and other vegetables; but I do not recollect to have heard any thing of the effect of such vegetables eaten by animals. It may be well to make the inquiry.

In America I have often observed that on the roofs of our shingled houses, where moss is apt to grow in northern exposures, if there be any thing on the roof painted with white lead, such as balusters, or frames of dormant windows, etc., there is constantly a streak on the shingles from such paint down to the eaves, on which no moss will grow, but the wood remains constantly clean and free from it. We seldom drink rain-water that falls on our houses; and if we did, perhaps the small quantity of lead, descending from such paint, might not be sufficient to produce any sensible ill effect on our bodies. But I have been told of a case in Europe, I forget the place, where a whole family was afflicted with what we call the dry belly-ache, or *colica pictorum*, by drinking rain-water. It was at a country-seat, which, being situated too high to have the advantage of a well, was supplied with water from a tank, which received the water from the leaded roofs. This had been drunk several years without mischief; but some young trees planted near the house growing up above the roof, and shedding their leaves upon it, it was supposed that an acid in those leaves had corroded the lead they covered, and furnished the water of that year with its baneful particles and qualities.

When I was in Paris with Sir John Pringle in 1767,

he visited *La Charité*, a hospital particularly famous for the cure of that malady, and brought from thence a pamphlet containing a list of the names of persons, specifying their professions or trades, who had been cured there. I had the curiosity to examine that list, and found that all the patients were of trades that, some way or other, use or work in lead; such as plumbers, glaziers, painters, etc., excepting only two kinds, stone-cutters and soldiers. In them I could not reconcile it to my notion, that lead was the cause of that disorder. But on my mentioning it to a physician of that hospital, he informed me that the stone-cutters are continually using melted lead to fix the ends of iron balustrades in stone; and that the soldiers had been employed by painters, as laborers, in grinding of colors.

This, my dear friend, is all I can at present recollect on the subject. You will see by it, that the opinion of this mischievous effect from lead is at least above sixty years old; and you will observe with concern how long a useful truth may be known and exist, before it is generally received and practised on. I am, ever, yours most affectionately,

B. FRANKLIN.

MCCCCXXVII

TO MR. CAREY

10 August, 1786.

SIR:—The memoirs you mention would be of little or no use to your scheme, as they contain only some notes of my early life, and finish in 1730. They

were written to my son, and intended only as information to my family. I have in hand a full account of my life which I propose to leave behind me; in the meantime I wish nothing of the kind may be published, and shall be much obliged to the proprietors of the *Columbian Magazine* if they will drop that intention, for the present. With great esteem, I am, sir, your most obedient servant,

B. FRANKLIN.

MCCCCXXVIII

TO WILLIAM COCKE

PHILADELPHIA, 12 August, 1786.

SIR:—I received yesterday the letter you did me the honor of writing me on the 15th of June past. I had never before been acquainted that the name of your intended new State had any relation with my name, having understood that it was called *Frankland*. It is a very great honor indeed, that its inhabitants have done me, and I should be happy if it were in my power to show how sensible I am of it, by something more essential than my wishes for their prosperity.[1]

Having resided some years past in Europe, and being lately arrived thence, I have not had an opportunity of being well informed of the points in dispute between you and the State of North Carolina. I can therefore only say that I think you are perfectly right in resolving to submit them to the discretion of Congress, and to abide by their determination. It is

[1] The name of this new State was afterwards changed to *Tennessee*.

wise and impartial tribunal, which can have no sinister views to warp its judgment. It is happy for us all that we have now in our own country such a council to apply to, for composing our differences, without being obliged, as formerly, to carry them across the ocean to be decided, at an immense expense, by a council which knew little of our affairs, would hardly take any pains to understand them, and which often treated our applications with contempt, and rejected them with injurious language. Let us, therefore, cherish and respect our own tribunal; for the more generally it is held in high regard, the more able it will be to answer effectually the ends of its institution, the quieting of our contentions, and thereby promoting our common peace and happiness.

I do not hear any talk of an adjournment of Congress, concerning which you enquire; and I rather think it likely they may continue to sit out their year, as it is but lately they have been able to make a quorum for business, which must therefore probably be in arrear. If you proceed in your intended journey, I shall be glad to see you as you pass through Philadelphia. In the meantime I have the honor to be, very respectfully, sir, your most obedient servant,

B. FRANKLIN.

MCCCCXXIX

FROM JOHN COAKLEY LETTSOM

LONDON, 14 August, 1786.

RESPECTED FRIEND:—Not having had the favor of a letter since thy arrival on thy native continent,

I take the liberty of addressing a letter, with the *Memoirs of Dr. Fothergill*, just printed. The manner in which I have introduced the memoirs of Dr. Cuming and Dr. Cleghorn will best explain the manner in which I wished to introduce thy respectable name among them. I am sensible how inadequate I am to give the true traits of a character that has instructed and astonished both America and Europe; and it was not my view thus to enter upon the department of an historian, but rather, by a few anecdotes of early life, to lay the basis of a superstructure destined for an abler pen; and this, I think, might be done by correcting the dates and some little particulars of that rough sketch, which I formerly sent thee when at Paris; and this would content me, unless thou shouldest be disposed to make any addition.

I have at different times received from North America various specimens of ores, as well as of coal. The iron, in particular, has been very fine; and if these various treasures were properly assayed, probably in time much national advantage might result. There are in your provinces many ingenious persons, who, with very moderate encouragement, would visit your mountains and woods in pursuit of discovery. You possess many valuable dyes and articles of medicine yet unknown.

I have lately had a correspondence with Mr. Humphrey Marshall of Bradford, in West Chester County, who is an excellent botanist, and has a pretty general knowledge of natural history, and for a little encouragement would, I am informed,

undertake a voyage of discovery into your woods and mountains. He mentioned to me that such a journey might be undertaken and continued for at least a year at the expense of three hundred pounds. If a subscription for this purpose were effected, I would willingly subscribe my mite of twenty guineas towards it, for the sake of a share of the seeds, plants, and ores that may be collected; I mean as specimens merely of your productions. I have now a man from Europe travelling through America for the purpose of collecting your productions, particularly of the vegetable kind.

Within the last ten years much rhubarb, of the Turkey kind, has been cultivated in Scotland and England. Its cultivation is becoming more and more general. I sent seeds over a year ago. I have now sent roots, as they vegetated with me in pots; and I hope it may become an object with you to cultivate this useful plant. It is also an ornamental plant in horticulture. I hope also by the same opportunity to transmit some tea plants, which your southern colonies are well calculated for. I am respectfully, etc.,

J. C. LETTSOM.

MCCCCXXX

TO JOHN JAY

PHILADELPHIA, 24 August, 1786.

DEAR SIR:—I hear a treaty is completed with Portugal. As soon as it may be made public, you

will oblige me much by favoring me with a copy of it.

The monument of General Montgomery, may I ask what is become of it? It has formerly been said, that republics are naturally ungrateful. The immediate resolution of Congress for erecting that monument contradicts that opinion; but the letting the monument lie eight years unpacked, if true, seems rather a confirmation of it.

On a review of my affairs since my return, I think it proper to make some change in the dispositions of my will. Having no other copy on this side the water but that in your possession, I wish you to send it to me, which will much oblige, dear sir, your most obedient servant,

B. FRANKLIN.

MCCCCXXXI

FROM M. DURIVAL TO MR. GRAND[1]

VERSAILLES, 30 August, 1786.

SIR:—I have received the letter which you did me the honor to write on the 28th of this month, touching the advance of a million, which you say was made by the Farmers-General to the United States of America, the 3d of June, 1777. I have no knowledge of that advance. What I have verified is, that the king, by the contract of the 25th of February, 1783, has confirmed the gratuitous gift which his Majesty had previously made, of the three

[1] In answer to a letter from Mr. Grand, respecting an inquiry of Dr. Franklin. See the letter to Mr. Grand on p. 268.

millions hereafter mentioned, viz., one million delivered by the Royal Treasury, the 10th of June, 1776, and two other millions advanced also by the Royal Treasury in 1777, on four receipts of the Deputies of Congress, of the 17th of January, 3d of April, 10th of June, and 15th of October, of the same year. This explanation will, sir, I hope, resolve your doubt touching the advance of the 3d of June, 1777. I further recommend to you, sir, to confer on this subject with M. Gojard, who ought to be better informed than we, who had no knowledge of any advances but those made by the Royal Treasury. I have the honor to be, etc.,

DURIVAL.

MCCCCXXXII

FROM M. DURIVAL TO MR. GRAND

VERSAILLES, 5 September, 1786.

SIR:—I laid before the Count de Vergennes the two letters which you did me the honor to write, touching the three millions, the free gift of which the king has confirmed in favor of the United States of America. The minister, sir, observed that this gift has nothing to do with the million which the Congress may have received from the Farmers-General in 1777; consequently he thinks that the receipt, which you desire may be communicated to you, cannot satisfy the object of your view, and that it would be useless to give you the copy which you desire. I have the honor to be, with perfect attachment, etc.,

DURIVAL.

MCCCCXXXIII

FROM MR. GRAND

PARIS, 9 September, 1786.

MY DEAR SIR:—The letter you honored me with, covered the copies of three letters, which Mr. Thomson wrote you in order to obtain an explanation of a million, which is not to be found in my accounts. I should have been very much embarrassed in satisfying and proving to him that I had not put that million in my pocket, had I not applied to M. Durival, who, as you will see by the answer enclosed, informs me that there was a million paid by the royal treasury on the 10th of June, 1776. This is the very million about which Mr. Thomson inquires, as I have kept an account of the other two millions, which were also furnished by the royal treasury, viz., the one million in January and April, 1777, the other in July and October of the same year, as well as that furnished by the farmers-general in June, 1777.

Here, then, are the three millions exactly, which were given by the king before the treaty of 1778, and that furnished by the farmers-general. Nothing then remains to be known, but who received the first million in June, 1776. It could not be myself, as I was not charged with the business of Congress until January, 1777. I therefore requested of M. Durival a copy of the receipt for the one million. You have the answer, which he returned to me. I have written to him again, renewing my request; but, as the courier is just setting off, I cannot wait to give you his answer, but you will receive it in my next, if I

obtain one. In the meanwhile, I beg you will receive the assurances of the sentiments of respect with which I have the honor to be, my dear sir, etc.,

GRAND.

MCCCCXXXIV

FROM M. DURIVAL TO MR. GRAND

VERSAILLES, 10 September, 1786.

SIR:—I have laid before the Count de Vergennes, as you seemed to desire, the letter which you did me the honor to write yesterday. The minister persists in the opinion that the receipt, the copy of which you request, has no relation to the business with which you were intrusted on behalf of Congress, and that this document would be useless in the new point of view in which you have placed it. Indeed, sir, it is easy for you to prove that the money in question was not delivered by the royal treasury into your hands, as you did not begin to be charged with the business of Congress until January, 1777, and the receipt for that money is of the 10th of June, 1776. I have the honor to be, with perfect attachment, sir, etc.,

DURIVAL.

MCCCCXXXV

FROM MR. GRAND

PARIS, 12 September, 1786.

S —I rd a letter in hopes it may be able to
1 t 9th at L'Orient, in order to forward

to you the answer I have just received from M. Durival. You will there see that notwithstanding my entreaty, the minister himself refuses to give me a copy of the receipt which I asked for. I cannot conceive the reason for this reserve, more especially since, if there has been a million paid, he who has received it has kept the account, and it must in time be known. I shall hear with pleasure that you have been more fortunate in this respect in America than I have been in France; and I repeat to you the assurance of the sentiments of regard with which I have the honor to be, etc.,

GRAND.

MCCCCXXXVI

ON THERMOMETERS

13 September, 1786.

The two thermometers most generally in use at present, among the philosophers of Europe, are those of Réaumur and Fahrenheit. The French use Réaumur's, the English Fahrenheit's.

In their respective graduations, Réaumur marked his freezing point 0, Fahrenheit fixed his at 32 of his degrees above 0, and two of his degrees are just equal to one of Réaumur's. I know that in some instruments this equality is not exact; but, in two which I have, the one Réaumur's, made by Cappy in Paris, the other Fahrenheit's, by Nairne, London, it is precisely so, they hanging together in the same room. And those workmen are famed for their exactness.

In reading, one frequently finds degrees of heat and cold mentioned, as measured by one or the other of those thermometers, and one is at a loss to reduce that least known to the other.

Rule

Suppose the degree mentioned is 25 of Réaumur, which is 25 degrees above 0, or its freezing point, and you would know to what degree of Fahrenheit that answers.

Double the 25, which will give you 50 of Fahrenheit's, and to them add 32, his number at the freezing point, and you will have 82, the degree of Fahrenheit's equal to 25 of Réaumur.

On the contrary, if you would reduce Fahrenheit to Réaumur, first subtract 32, and then take half of the remainder; thus taking 32 from 82, there remains 50, and the half of 50 is 25.

This answers in all cases where the degree is above the freezing point.

If below, double the degrees of Réaumur, and subtract them from the 32 of Fahrenheit, which will give you the equivalent degree of his scale. Thus, suppose it 5 below 0, or the freezing point of Réaumur; twice 5 is 10, which deducted from 32, Fahrenheit's freezing point, gives you 22 as the equivalent degree of his thermometer. And halving the degrees of Fahrenheit that are less than 32, you have the degree of Réaumur. Thus 22 of Fahrenheit being 10 degrees less than 32, the half of 10 is 5, the equivalent degree of Réaumur.

MCCCCXXXVII

TO MRS. JANE MECOM

PHILADELPHIA, 21 September, 1786.

MY DEAR SISTER:—I received your kind letter of the 25th past, by our Cousin Williams, who, besides, informs me of your welfare, which gives me great pleasure.

Your grandson having finished all the business I had to employ him in, set out for Boston a few days before Cousin Williams arrived. I suppose he may be with you before this time.

I had begun to build two good houses next the street, instead of three old ones which I pulled down, but my neighbor disputing my bounds, I have been obliged to postpone till that dispute is settled by law. In the meantime, the workmen and materials being ready, I have ordered an addition to the house I live in, it being too small for our growing family. There are a good many hands employed, and I hope to see it covered in before winter. I propose to have in it a long room for my library and instruments, with two good bedchambers and two garrets. The library is to be even with the floor of my best old chamber; and the story under it will for the present be employed only to hold wood, but may be made into rooms hereafter. This addition is on the side next the river. I hardly know how to justify building a library at an age that will so soon oblige me to quit it; but we are apt to forget that we are grown old, and building is an amusement.

I think you will do well to instruct your grandson

in the art of making that soap. It may be of use to him, and 't is pity it should be lost.

Some knowing ones here in matters of weather predict a hard winter. Permit me to have the pleasure of helping to keep you warm. Lay in a good stock of firewood, and draw upon me for the amount. Your bill shall be paid upon sight by your affectionate brother,

B. FRANKLIN.

MCCCCXXXVIII

TO M. DE CHAUMONT

PHILADELPHIA, 7 October, 1786.

DEAR FRIEND:—I have just been writing a French letter to Mademoiselle Chaumont, but it costs me too much time to write in that language, and after all 't is very bad French, and I therefore write to you in English, which I think you will as easily understand; if not, *ma chère amie*, Sophie, can interpret it for you.

Some of our letters are long on the way. The one you were so kind as to write me the 24th of September, '85, did not come to hand till the beginning of June, '86, and lately M. Le Caze tells me that he had a packet from you to me, but that he unfortunately left it at L'Orient, and it is not yet arrived.

If you have made any further experiments in whitening the green vegetable wax, I shall be glad to hear what success you have met with.

I have frequently the pleasure of seeing your valuable son, whom I love as my own. He has communicated to me his inclination, a young lady of this

country, and that he has written to you for your and his mother's consent. I wish his happiness, and I believe he will find it in the choice he has made, if you approve of it; for the lady bears an excellent character, and is of one of the first families in this country.

Please to present my affectionate respects to Madame de Chaumont, and my love to all your children.

With great esteem and affection, I am, my dear friend, yours most sincerely,

B. FRANKLIN.

My grandsons present their respects and best wishes.

MCCCCXXXIX

FROM THOMAS PERCIVAL

MANCHESTER, 27 October, 1786.

DEAR SIR:—I received, with very great pleasure, your obliging letter by Mr. Vaughan; and delivered to our Literary Society the volume of *American Philosophical Transactions* which accompanied it. The donation was highly acceptable, both from its intrinsic value, and as a pledge of friendly correspondence with the excellent institution over which you preside. The formal acknowledgment of such favors is the official duty of our secretaries; and they have been directed to return our thanks in the most grateful and respectful terms, together with the present of our *Memoirs*. The diffusion of the arts and sciences through so many extensive regions

of the globe must afford a subject of contemplation peculiarly satisfactory to your mind; as you cannot but feel the delightful consciousness of having been a principal instrument, under Providence, in its accomplishment. And I hope that sun, which has so long blessed the nations, will not set till the interests of truth and knowledge, of civil and religious liberty, are firmly established in the western hemisphere, which it now enlightens.

Your valuable papers on *Chimneys* and on the *Consumption of Smoke*, have arrived very seasonably, to aid a plan which I have in view. It is my intention to offer a representation to our magistrates, at the ensuing Quarter Sessions, of the expediency and necessity of adopting some measures to purify the air of Manchester; for they are guardians of the health, as well as of the morals, of their fellow-citizens. And though works, which are essential to the prosecution of trade, ought not to be deemed nuisances, the persons who are engaged in them should be induced or compelled to conduct them in a manner as little injurious as possible to the public. This town now contains about forty-six thousand inhabitants; and I observe, with concern, an annual and large increase of pulmonic complaints. To the offensive fumes which we breathe, I apprehend, these distressing and fatal maladies are chiefly to be ascribed. The smoke from the velvet dress works is particularly acrimonious and offensive to the lungs; and it is so copious, even from a single chimney, as to scatter a shower of soot over a very considerable space. I shall think myself much obliged by the

communication of any hints, that your knowledge or experience may suggest on this subject, which is interesting not only to Manchester, but to most other manufacturing towns.

We have now established here an institution on a plan similar to the late Academy at Warrington, and in conjunction with this a medical school is formed, which seems to bid fair for eminent success. I will send you our *Reports* when the *Manchester Memoirs* are forwarded to you.

Dr. and Mrs. Priestley have been here this summer, together with Dr. Kippis. Dr. Priestley is not in a very good state of health, having had a return of the complaint with which he was visited several years ago; but his spirits and ardor do not desert him. He is at this time zealously engaged in attempts to convert the Jews to Christianity. For this undertaking he believes himself peculiarly well fitted, as it is a part of his creed that Jesus Christ was the actual son of Joseph, and a lineal descendant of the house of David. But the Jewish rabbis have declared their resolution to enter into no discussion on these topics, being forbidden, as they allege, by their most sacred laws.

Dr. Kippis is busied with the *Life of Captain Cook*, which is to be published separately, as well as in the *Biographia Britannica*. Our excellent friend, Dr. Price, is, I hear, deeply affected with the death of his wife. A fresh paralytic stroke carried her off about a month since. The doctor is preparing for the press a volume of sermons in support of the Arian doctrine, and an enlarged edition of his

valuable *Review of the Principal Questions and Difficulties in Morals.* The College of Physicians in London have just printed a specimen of a new *Pharmacopœia.* The president has favored me with a copy; and I think the dispensatory, on the whole, is likely to be much improved.

I have already transmitted, in a letter to Dr. Rush, my grateful acknowledgments to the American Philosophical Society for the honor of being elected into their body. To you I am doubtless much indebted for this mark of distinction. Accept my best thanks, and believe me to be, with the most cordial respect and esteem, dear sir, etc.,

THOMAS PERCIVAL.

MCCCCXL

TO M. L' ABBÉ DE LA ROCHE

PHILADELPHIA, 20 November, 1786.

DEAR SIR:—I hope soon to be in a situation when I can write largely and fully to my friends in France, without the perpetual interruptions I now daily meet with. At present I can only tell you that I am well,

and that I esteem you,
and l'Abbé Morellet,
and M. Cabanis,
and love dear Mme. Helvetius,

} Infinitely.

Adieu. Yours most affectionately,

B. FRANKLIN.

I received several productions of the Academy at Auteuil, which gave me great pleasure.

MCCCCXLI

TO WILLIAM HUNTER

PHILADELPHIA, 24 November, 1786.

MY DEAR OLD FRIEND:—It rejoiced me to learn by your kind letter of February last, which I received about ten days since, that you are still in the land of the living, and that you are still at Bath, the very place that I think gives you the best chance of passing the evening of life agreeably. I too am got into my *niche*, after being kept out of it twenty-four years by foreign employments. It is a very good house that I built so long ago to retire into, without being able till now to enjoy it. I am again surrounded by my friends, with a fine family of grandchildren about my knees, and an affectionate good daughter and son-in-law to take care of me. And, after fifty years' public service, I have the pleasure to find the esteem of my country with regard to me undiminished; the late reëlection of me to the presidentship, notwithstanding the different parties we are split into, being absolutely unanimous. This I tell you, not merely to indulge in my own vanity, but because I know you love me, and will be pleased to hear of whatever happens that is agreeable to your friend.

I find Mr. Anstey,[1] whom you recommend to me, a very agreeable, sensible man, and shall render him any service that may lie in my power. I thank you for the *New Bath Guide*. I had read it formerly, but it has afforded me fresh pleasure.

Your newspapers, to please honest *John Bull*,

[1] Mr. Anstey was a commissioner sent over by the British government to settle the affairs of the refugees in America.

paint our situation here in frightful colors, as if we were very miserable since we broke our connection with him. But I will give you some remarks by which you may form your own judgment. Our husbandmen, who are the bulk of the nation, have had plentiful crops, their produce sells at high prices and for ready, hard money; wheat, for instance, at eight shillings, and eight shillings and sixpence, a bushel.

Our working people are all employed and get high wages, are well fed and well clad. Our estates in houses are trebled in value by the rising of rents since the Revolution. Buildings in Philadelphia increase amazingly, besides small towns rising in every quarter of the country. The laws govern, justice is well administered, and property as secure as in any country on the globe. Our wilderness lands are daily buying up by new settlers, and our settlements extend rapidly to the westward. European goods were never so cheaply afforded us as since Britain has no longer the monopoly of supplying us. In short, all among us may be happy, who have happy dispositions; such being necessary to happiness even in Paradise.

I speak these things of Pennsylvania, with which I am most acquainted. As to the other States, when I read in all the papers of the extravagant rejoicings every 4th of July, the day on which was signed the Declaration of Independence, I am convinced that none of them are discontented with the Revolution. Adieu, my dear friend, and believe me ever, with sincere esteem and affection, yours most truly,

B. FRANKLIN.

MCCCCXLII

TO MR. THOS. WIGHT, JUNIOR.

PHILADELPHIA, 25 November, 1786.

SIR:—I received your letter dated the 3d of September last, enquiring after John Tyler. He is living and in good health, and was here with me a few days since, but is, I believe, gone back into the country where he resides, his coming to town being to apply to government for some arrears due to him as armorer to the troops during the late war. I am glad to hear that Mr. and Mrs. Salt are still in the land of the living. My respects and best wishes attend them. I shall acquaint Mr. Tyler with what you have mentioned to me of something being left him, and am, sir, your most humble servant,

B. FRANKLIN.

MCCCCXLIII

TO ———

25 November, 1786.

DEAR SIR:—I hope your gout will be of service to you, as I have always found mine has been to me. I return the piece. And since you seem to wish for my advice, though without asking it, I will give it. Do not publish the piece immediately. Let it lie by you at least a twelvemonth, then reconsider it, and do what you find proper. Such personal public attacks are never forgiven. You both have children, and the animosity may be entailed to the prejudice

of both sides. With great esteem and affection, I am ever yours,

B. FRANKLIN.

MCCCCXLIV

TO THE CAPTAIN OF A SPANISH MAN-OF-WAR

PHILADELPHIA, 16 December, 1786.

HONORABLE SIR:—The council having received information that the ship under your command lies in a dangerous situation, exposed to be much injured, if not destroyed, by the violence of the driving ice, have thought that not only the duty of hospitality, of duty towards strangers in our port, but the just regard due from us to the excellent prince, your sovereign, and the good friend of these States, required of us to afford every assistance in our power for her preservation. And apprehending that possibly your people, accustomed to warmer climates, may not be so well acquainted with the force and mischievous effects of ice, and the methods of guarding against it, we send to you two of the wardens of the port, men of experience and knowledge in such matters, on whose advice you may rely, and who have authority to obtain such aid from the inhabitants, if any should be wanted, as may enable them to put her in a position of the greatest possible safety.

Wishing you every kind of prosperity, I have the honor to be, honorable sir, your most obedient and most humble servant,

B. FRANKLIN.

MCCCCXLV

TO NATHANIEL FALCONER, ESQ., ETC.

PHILADELPHIA, 16 December, 1786.

GENTLEMEN:—When you arrive at Marcus Hook you will deliver the letter to the captain of the Spanish man-of-war, and having viewed the situation of the ship and the piers, you will respectfully offer him your opinion and advice on the best means of securing her from damage by the driving ice, in writing if he desires it, and afford every assistance you can procure, for the expense of which (if he does not pay it), you will be indemnified here.

If you find the piers likely to be damaged in case of his refusal to follow your counsel, you will likewise represent *that* to him in writing, to be made use of hereafter in support of a complaint to his court and demand of satisfaction, if such a step should be thought proper. And you will take such prudent steps as shall occur to you for preventing, as far as possible, or lessening such damage.

You will also enquire into the truth of the reports of injuries done by his people to the inhabitants, and if you find them true, acquaint him with them, expressing at the same time your persuasion that he will take measures to prevent such injuries for the future.

With sincere regard, I am, gentlemen, your humble servant,

B. FRANKLIN.

MCCCCXLVI

FROM M. DE SAUSSURE

GENEVA, 17 December, 1786.

SIR:—I have taken the liberty of requesting Messrs. Van Neck & Co., of London, to forward to you in America the second volume of my *Voyages dans les Alpes*. I am very desirous that this work should be found worthy of your approbation, or at least that you should not think it was hardly worth sending so far. Although there are few branches of human knowledge with which you are unacquainted, and in which you have not given proofs of your genius, you have appeared to take an especial interest in natural philosophy, and particularly electricity and meteorology. In this volume you will find chapters of considerable length on these two subjects.

The structure of mountains was particularly the object of my research in these travels; but at the same time I thought I ought to take the opportunity of studying the constitution of the atmosphere at heights which are seldom reached; and for this purpose I invented a very convenient and sensitive electrometer, which you will find described in the volume, and with which I made some curious experiments upon the electricity of the air in clear weather. I found this electricity stronger in proportion as the place of observation was higher and more insulated. I am very desirous to try the same experiment on the summit of Mount Blanc, which is, as you know, the highest mountain of the old

continent. I almost despaired of being able to reach it, when I finished the volume which I now have the honor to send. You will there see an account of my fruitless attempts. Since then, however, I have obtained information which gives me an almost certain prospect of doing it, at least if I am alive and in good health next June.

Six peasants from Chamouni made the attempt at the beginning of last summer, and went to a great height, though they did not reach the summit. One of them, who got lost while looking after crystals, was obliged to pass the night in the snows at a very elevated point. A terrible hailstorm came on, and his companions gave him up for lost. He suffered but little, however. The next morning the weather was extremely fine, and, as it was very early, he had time to examine carefully the different approaches to the summit, and to fix upon the proper path to reach it.

On his return to Chamouni, he said nothing to his companions, but he communicated his views to a young physician named Paccard, who had also several times attempted without success to scale the mountain. They went and slept on the top of the rocks at the entrance of the snows, and, starting again at break of day on the following morning, being the 8th of August, they reached the summit between six and seven in the evening. They were seen there with spy-glasses from Chamouni. The Baron de Garsdorf even followed them with a good telescope and marked out their path. They returned the same day, or rather night, with excessive fatigue and danger, their faces burnt, swollen, and even

bleeding; and they were almost blind from the reflection from the snow. In fact, they had taken no precautions whatever.[1]

As soon as I learned the success of their enterprise, I sent a number of peasants to build me a place of shelter among the snows near some insulated rocks, which are half-way up the snowy part of the mountain. My intention was to go and sleep there, and thus to divide the terrible day's work, which my predecessors had been obliged to encounter. I went to Chamouni, and slept as they had done at the entrance of the snows, but there came on in the night a furious storm and much snow, which rendered the mountain inaccessible for the rest of the season. But my hut is still standing, and I hope to accomplish my project next summer. I shall need your ingenuity, when in that situation, to make my observations as useful as they should be.[2] I am, with the most perfect esteem, sir, etc.,

DE SAUSSURE.

MCCCCXLVII

TO THOMAS PAINE [3]

[Date uncertain.]

DEAR SIR:—I have read your manuscript with some attention. By the argument it contains against

[1] M. Paccard was accompanied by M. Balmat. They published an account of this enterprise, entitled *Premier Voyage à la Cime de la plus Haute Montagne du Continent.*

[2] His subsequent attempt was successful. He reached the summit of Mont Blanc on the 3d of August, 1787. An account of his ascent is contained in the *Gentleman's Magazine* for October of that year.

[3] This letter was first published by William Temple Franklin, without the name of the person to whom it was directed. He probably

a particular Providence, though you allow a general Providence, you strike at the foundations of all religion. For, without the belief of a Providence that takes cognizance of, guards, and guides, and may favor particular persons, there is no motive to worship a Deity, to fear his displeasure, or to pray for his protection. I will not enter into any discussion of your principles, though you seem to desire it. At present I shall only give you my opinion that, though your reasons are subtile, and may prevail with some readers, you will not succeed so as to change the general sentiments of mankind on that subject, and the consequence of printing this piece will be, a great deal of odium drawn upon yourself, mischief to you, and no benefit to others. He that spits against the wind spits in his own face.

But were you to succeed, do you imagine any good would be done by it? You yourself may find it easy to live a virtuous life, without the assistance afforded by religion; you having a clear perception of the advantages of virtue, and the disadvantages of vice, and possessing a strength of resolution sufficient to enable you to resist common temptations. But think how great a portion of mankind consists of weak and ignorant men and women, and of inexperienced, inconsiderate youth of both sexes, who have need of the motives of religion to restrain them from vice, to support their virtue, and retain them in the practice of it till it becomes *habitual*, which

transcribed it from a rough draft, in which the name was not mentioned. There is scarcely room for a doubt that it was written to Paine, though the highest evidence of the fact is lacking.

is the great point for its security. And perhaps you are indebted to her originally, that is, to your religious education, for the habits of virtue upon which you now justly value yourself. You might easily display your excellent talents of reasoning upon a less hazardous subject, and thereby obtain a rank with our most distinguished authors. For among us it is not necessary, as among the Hottentots, that a youth, to be raised into the company of men, should prove his manhood by beating his mother.

I would advise you, therefore, not to attempt unchaining the tiger, but to burn this piece before it is seen by any other person; whereby you will save yourself a great deal of mortification by the enemies it may raise against you, and perhaps a good deal of regret and repentance. If men are so wicked *with religion*, what would they be *if without it*. I intend this letter itself as a *proof* of my friendship, and therefore add no *professions* to it; but subscribe simply yours,

B. FRANKLIN.

MCCCCXLVIII

FROM JOHN ADAMS

GROSVENOR SQUARE, 27 January, 1787.

SIR:—Dr. White has been so obliging to me as to take with him to America two volumes, one for your Excellency and one for the Philosophical Society of Philadelphia, of a production of mine, suggested by the late popular frenzy in Massachusetts and New Hampshire. It contains my confession of political

faith, and, if it is heresy, I shall, I suppose, be cast out of communion. But it is the only sense in which I am or ever was a Republican, and in such times I hold concealment of sentiments to be no better than countenancing sedition. Let me beg your Excellency's acceptance of one volume, and that you would present the other to the Philosophical Society with my respectful thanks for the volume of their *Transactions*, transmitted to me by your Excellency in their name. That work is in good reputation here.

Mr. Dilly has often requested me to mention to your Excellency his great desire of publishing a new edition of your works, and a sketch of your life; and his inclination is much quickened since he learned that you had been advised to write it with your own hand. Enclosed is a note which I received from him this morning. Mr. Dilly is as honest a man as any of the trade here, and as much esteemed by men of letters, so that I believe you may depend upon his honor and skill. My regards to Mr. Franklin and Mr. Bache, if you please. With great respect, I have the honor to be, sir, etc.,

JOHN ADAMS.

MCCCCXLIX

TO CHARLES THOMSON, SECRETARY OF CONGRESS

PHILADELPHIA, 27 January, 1787.

DEAR FRIEND:—You may remember that in the correspondence between us in June last, on the subject of a million *free gift* of the king of France, acknowledged in our contract to have been received,

but which did not appear to be accounted for in our banker's account, unless it should be the same with the million said to be received from the farmers-general, I mentioned that an explanation might doubtless be easily obtained by writing to Mr. Grand or Mr. Jefferson. I know not whether you have accordingly written to either of them; but, being desirous that the matter should speedily be cleared up, I wrote myself to Mr. Grand a letter upon it, of which I now enclose a copy, with his answers, and several letters from M. Durival, who is *Chef du Bureau des Fonds* (and has under his care the finance) *des Affaires Etrangères*.

You will see by these letters that the million in question was delivered to somebody on the 10th of June, 1776, but it does not appear to whom. It is clear, however, that it could not be to Mr. Grand nor to the Commissioners from Congress, for we did not meet in France till the end of December, 1776, or beginning of January, 1777, and that banker was not charged before with our affairs.

By the minister's reserve in refusing him a copy of the receipt,[1] I conjecture it must be money advanced

[1] Dr. Franklin's conjecture was correct. The money was given to Caron de Beaumarchais, who in return gave the following memorable receipt:

"J'ai reçu de M. Duvergier conformement aux ordres de M. le Comte de Vergennes en date du 5 courant, que je lui ai remis la somme d 'un million dont Je rendrai compte à mon dit Sieur Comte de Vergennes.

"Caron de Beaumarchais.

"Bon pour un million de livres tournois.

"à Paris le 10 Juin 1776."

For an interesting discussion of the part Beaumarchais had in assisting the colonies in their revolt, see an interesting monograph on Beaumarchais published by Dr. Stillé, of Philadelphia.—EDITOR.

for our use to M. de Beaumarchais, and that it is a *mystère du cabinet*, which perhaps should not be further enquired into, unless necessary to guard against more demands than may be just from that agent; for it may well be supposed that if the court furnished him with the means of supplying us, they may not be willing to furnish authentic proofs of such a transaction so early in our dispute with Britain. Pray tell me, has he dropped his demands, or does he still continue to worry you with them?

I should like to have these original letters returned to me, but you may, if you please, keep copies of them. It is true the million in question makes no difference in your accounts with the king of France, it not being mentioned or charged as so much lent and to be repaid, but stated as freely given. Yet if it was put into the hands of any of your agents or ministers, they ought certainly to account for it. I do not recollect whether Mr. Deane had arrived in France before the 10th of June, 1776 [1]; but from his great want of money when I joined him a few months after, I hardly think it could have been paid to him. Possibly Mr. Jefferson may obtain the information, though Mr. Grand could not, and I wish he may be directed to make the enquiry, as I know he would do it directly; I mean, if, by Hortalez & Co.'s further demands, or for any other reason, such an enquiry should be thought necessary. I am, etc.,

B. FRANKLIN.

[1] Deane did not arrive in Paris till the first week in July.

MCCCCL

TO ALEXANDER SMALL

PHILADELPHIA, 19 February, 1787.

DEAR FRIEND:—I received your favor of June last, and thank you for the kind congratulations contained in it. What you have heard of my malady is true—"that it does not grow worse." Thanks be to God, I still enjoy pleasure in the society of my friends and books, and much more in the prosperity of my country, concerning which your people are continually deceiving themselves.

I am glad the improvement of the Book of Common Prayer has met with your approbation and that of good Mrs. Baldwin. It is not yet, that I know of, received in public practice anywhere; but as it is said that good motions never die, perhaps in time it may be found useful.

I read with pleasure the account you gave of the flourishing state of your commerce and manufactures and of the plenty you have of resources to carry the nation through all its difficulties. You have one of the finest countries in the world, and if you can be cured of the folly of making war for trade (in which wars more has been always expended than the profits of any trade can compensate), you may make it one of the happiest. Make the best of your own natural advantages, instead of endeavoring to diminish those of other nations, and there is no doubt but that you may yet prosper and flourish. Your beginning to consider France no longer as a natural enemy is a mark of progress in the good sense of the nation, of

which posterity will find the benefit, in the rarity of wars, the diminution of taxes, and increase of riches.

As to the refugees, whom you think we were so impolitic in rejecting, I do not find that they are missed here, or that anybody regrets their absence. And certainly they must be happier where they are, under the government they admire; and be better received among a people, whose cause they espoused and fought for, than among those who cannot so soon have forgotten the destruction of their habitations, and the spilt blood of their dearest friends and near relations.

I often think with great pleasure on the happy days I passed in England with my and your learned and ingenious friends, who have left us to join the majority in the world of spirits. Every one of them now knows more than all of us they have left behind. It is to me a comfortable reflection, that, since we must live for ever in a future state, there is a sufficient stock of amusement in reserve for us, to be found in constantly learning something new to eternity, the present quantity of human ignorance infinitely exceeding that of human knowledge. Adieu, my dear friend, and believe me, in whatever world, yours most affectionately, B. FRANKLIN,

in his eighty-second year.

MCCCCLI

TO NEVIL MASKELYNE

PHILADELPHIA, 29 March, 1787.

REVEREND AND DEAR SIR:—The writer of the enclosed paper concerning the variation of the com-

pass, and the important use which he supposes may be made of that variation, not being satisfied with the judgment of some of our principal mathematicians here, has earnestly desired me to communicate it to some of my learned friends in Europe.[1] I know no one better acquainted with the subject than yourself, and, as I cannot refuse complying with his request, I beg you will excuse my giving you this trouble, and favor me with a line expressing your opinion; which condescension will very much oblige, sir, your most obedient servant,

B. FRANKLIN.

MCCCCLII

FROM JOHN SEVIER

STATE OF FRANKLIN, MOUNT PLEASANT, 9 April, 1787.

SIR:—Permit me to introduce to your Excellency the subject of our new disputed government. In the year 1784, in the month of June, the Legislature of North Carolina ceded to Congress all their claims to the lands west of the Appalachian Mountains, on conditions I make no doubt you are acquainted with, as the act was shortly after laid before Congress. The inhabitants of this country, well knowing that the Congress of the United States would accept the cession, and having no idea that North Carolina

[1] The writer here alluded to was John Churchman, who published a work, entitled *The Magnetic Atlas*. He fancied he had discovered properties in the magnetic needle by which its dip and variation could be ascertained for any given time and place; and also that he had discovered a new method of finding the longitude and explaining the theory of the tides. For Mr. Maskelyne's report on it, see *infra*.

would attempt repealing the act, formed themselves into a separate and independent State by the name of *Franklin*.

In November following, North Carolina repealed this act of cession. In May, 1785, Congress took the several acts under their consideration, and entered into resolves respecting the same, the purport of which, I presume, you are acquainted with. The government of Franklin was carried on unmolested by North Carolina, until November, 1785, when that Legislature passed an act, allowing the people in some of our counties to hold elections under certain regulations unknown to any former law; whereby a few from disaffection and disappointment might have it in their power to elect persons, who were to be considered the legal delegation of the people. This was done and countenanced; and at their last session, in November, 1786, they have undertaken to resume their jurisdiction and sovereignty over the State of Franklin, notwithstanding the whole of their adherents do not exceed two or three hundred against a majority of at least seven thousand effective militia. They have, contrary to the interest of the people in two of the counties, to wit, Washington and Sullivan, by their acts removed the former places of holding courts to certain places convenient to the disaffected, as we conceive, in order that they might have a pretext to prevaricate upon.

I have thus given your Excellency the outlines of our past and present situation, and beg leave to inform you that, from your known patriotic and benevolent disposition, as also your great experience

and wisdom, I am, by and with the advice of our Council of State, induced to make this application, that, should you, from this simple statement of the several occurrences, think our cause so laudable as to give us your approbation, you would be pleased to condescend to write on the subject. And any advice, instruction, or encouragement you may think we shall deserve, will be acknowledged in the most grateful manner.

We have been informed that your Excellency some time since did us the honor to write to us on the subject of our state; if so, unfortunately for us, the letters have miscarried and are not come to hand. Many safe conveyances might be had. A letter may be sent by the bearer, Captain John Woods, if he should return by the way of Franklin; or if it were directed to the care of the Governor of Georgia, it would come safe; and perhaps by a number of people who travel to this country. I have the honor to be, sir, etc.,

JOHN SEVIER.

MCCCCLIII

TO M. LE VEILLARD

PHILADELPHIA, 15 April, 1787.

I have received a number of letters from you, which gave me great pleasure, though I have not regularly answered. When you shall consider the situation of a man who had been many years absent from home, the multiplicity of private affairs he

must consequently have to settle, the public business of a great government to be attended to, and this under the frequent teasing of a painful disease, you will probably make some charitable allowance for his delay in writing to his friends, and not charge it all as the effect of forgetfulness and want of affection.

I now have all your letters of the last year before me, and shall go through them in order. That of March 25th, announced a M. de la Villele, nephew of the late Madame de la Frété, as intending a voyage hither, but he has not yet appeared in these parts. If he arrives while I live, he will be paid every attention and civility in my power to show him.

I thank you for the trouble you have taken in selling my forte piano and dividing the money as I desired.

The Lodge of the Nine Sisters have done me too much honor in proposing the prize you mention.

As to the little history I promised you, my purpose still continues of completing it, and I hoped to do it this summer, having built an addition to my house, in which I have placed my library, and where I can write without being disturbed by the noise of the children, but the General Assembly having lately desired my assistance in a great convention to be held here in May next for amending the Federal Constitution, I begin to doubt whether I can make any progress in it till that business is over.

Yours of the 23d of May did not arrive here till the 5th of October, and this is not the only instance of the long time letters are delayed in your seaports.

It is true that we had, as you mention, two parties in this State—one for preserving the Constitution as it is, and the other for adding an Upper House as a check to the Assembly. But having tried it seven years, the strongest party was for continuing it, and since my arrival no obstruction has happened in public business, such as you had been informed of, by the seceding of one party from the Assembly. Having served one year as President of Council, I had not resolution enough to refuse serving another, and was again chosen in November last, without a single dissenting voice but my own. By our laws one cannot serve more than three years, but I think I shall decline the third.

I am quite of your opinion that our independence is not quite complete till we have discharged our public debt. This State is not behindhand in its proportion, and those who are in arrear are actually employed in contriving means to discharge their respective balances, but they are not all equally diligent in business, nor equally successful; the whole will, however, be paid, I am persuaded, in a few years.

The English have not yet delivered up the posts on our frontiers, agreeable to treaty; the pretence is that our merchants have not paid their debts. I was a little provoked when I first heard this, and I wrote some remarks upon it which I send you. They have been written near a year, but I have not yet published them, being unwilling to encourage any of our people who may be able to pay in their neglect of that duty. This paper, therefore, is only for your

amusement and that of our excellent friend, the Duke de Rochefoucauld.[1]

You blame me for writing three pamphlets and neglecting to write the little history; you should consider they were written at sea, out of my own head; the other could not so well be written there for want of the documents that could only be had here.

As to my malady, concerning which you so kindly enquire, I have never had the least doubt of its being the stone. I am sensible that it is grown heavier; but on the whole it does not give me more pain than when at Passy, and except in standing, walking, or making water, I am very little incommoded by it. Sitting or lying in bed I am generally quite easy, God be thanked; and as I live temperately, drink no wine, and use daily the exercise of the dumb-bell, I flatter myself that the stone is kept from augmenting so much as it might otherwise do, and that I may still continue to find it tolerable. People who live long, who will drink of the cup of life to the very bottom, must expect to meet with some of the usual dregs, and when I reflect on the number of terrible maladies human nature is subject to, I think myself favored in having to my share only the stone and the gout.

In yours of August 21st, you mention your having written the 21st and 29th of June, which letters were in a paquet, with one from the Duke de Rochefoucauld, two from M. and Mad. Brillon, etc. I have

[1] The following was written in the margin: "This omitted at present for want of time to copy it."—Ed.

not been so happy as to receive these letters; they never came to hand.

You were right in conjecturing that I wrote the remarks on the *Thoughts Concerning Executive Justice.* I have no copy of those remarks at hand, and forget how the saying was introduced that it was better one thousand guilty persons should escape than one innocent suffer. Your criticisms thereon appear to be just, and I imagine you may have misapprehended my intention in mentioning it. I always thought, with you, that the prejudice in Europe which supposes a family dishonored by the punishment of one of its members was very absurd, it being, on the contrary, my opinion that a rogue hanged out of a family does it more honor than ten that live in it.

What you mention of our paper money, if you mean that of this State, Pennsylvania, is not well understood. It was made before my arrival, and not being a legal tender can do no injustice to anybody, nor does any one here complain of it, though many are justly averse to an increase of the quantity at this time, there being a great deal of real money in the country, and one bank in good credit. I have myself purchased ten *actions* in it, which, at least, shows my good opinion of it.

Besides the addition to my house, mentioned above, I have been building two new houses on my front, next the street. They are of brick, and each twenty-four feet wide by forty-five deep, and three stories high. The affairs in dealing with so many workmen and furnishers of materials, such as brick-

layers, carpenters, stone-cutters, painters, glaziers, lime-burners, timber-merchants, copper-smiths, carters, laborers, etc., etc., have added not a little to the fatiguing business I have gone through in the last year, as mentioned above, and strengthen in some degree my apology for being so bad a correspondent.

Mr. Brabanzon has requested me to send him some seeds in time to plant this spring, but his letter came to hand too late. They will be got the ensuing autumn and sent, so as to be ready for planting next year.

Temple and Benjamin will write to you. This letter goes by Mr. Paine, one of our principal writers at the Revolution, being the author of *Common Sense*, a pamphlet that had prodigious effects.

He does not speak French, or I should recommend him to your civilities, as I do to those of our friend, the good Duke.

The last letter I have had the pleasure of receiving from you is that of Nov. 19, 1786. I cannot give you a better idea of my present happiness in my family than in telling you that my daughter has all the virtues of a certain good lady that you allow me to love; the same tender affections and intentions, ingenuity, industry, economy, etc., etc., etc. Embrace that good dame for me very warmly, and the amiable daughter. My best wishes attend the whole family, whom I shall never cease to love while I am

B. FRANKLIN.

MCCCCLIV

TO THE DUKE DE LA ROCHEFOUCAULD

PHILADELPHIA, 15 April, 1787.

I have been happy in receiving three very kind letters from my greatly respected and esteemed friend, since my being in America. They are dated November 30, 1785, February 8, 1786, and January 14, 1787. In mine of this date to M. Le Veillard, I have made the best apology I could for my being so bad a correspondent. I will not trouble you with a repetition of it, as I know you often see him. I will only confess my fault, and trust to your candor and goodness for my pardon.

Your friendly congratulations on my arrival and reception here were very obliging. The latter was, as you have heard, extremely flattering. The two parties in the Assembly and Council, the constitutionists and anti-constitutionists, joined in requesting my service as counsellor, and afterwards in electing me as President. Of seventy-four members in Council and Assembly, who voted by ballot, there was in my first election but one negative, besides my own; and in the second, after a year's service, only my own. And I experience, from all the principal people in the government, every attention and assistance that can be desired towards making the task as little burdensome to me as possible. So I am going on very comfortably hitherto with my second year, and I do not at present see any likelihood of a change; but future events are always uncertain, being governed by Providence or subject to chances; and popular favor is

very precarious, being sometimes *lost* as well as *gained* by good actions; so I do not depend on a continuance of my present happiness, and therefore shall not be surprised if, before my time of service expires, something should happen to diminish it.

These States in general enjoy peace and plenty. There have been some disorders in the Massachusetts and Rhode Island governments: those in the former are quelled for the present; those in the latter, being contention for and against paper money, will probably continue some time. Maryland, too, is divided on the same subject, the Assembly being for it and the Senate against it. Each is now employed in endeavoring to gain the people to its party against the next election, and it is probable the Assembly may prevail. Paper money in moderate quantities has been found beneficial; when more than occasions of commerce require, it depreciated and was mischievous; and the populace are apt to demand more than is necessary. In this State we have some, and it is useful, and I do not hear any clamor for more.

There seems to be but little thought at present in the particular States of mending their particular constitutions; but the grand Federal Constitution [1] is generally blamed as not having given sufficient powers to Congress, the federal head. A convention is therefore appointed to revise that Constitution and propose a better. You will see by the enclosed paper that your friend is to be one in that business, though he doubts his malady may not permit his giving constant attendance. I am glad to see that you are

[1] The old Confederation.

named as one of a general assembly to be convened in France. I flatter myself that great good may accrue to that dear nation from the deliberations of such an assembly. I pray God to give it his blessing.

I sympathize with you and the family most sincerely in the great loss sustained by the decease of that excellent woman.[1] It must be indeed a heavy one. My best wishes attend those that remain, and that the happiness of your sweet domestic society may long continue without such another interruption.

I send herewith a volume of the *Transactions* of our Philosophical Society for you, another for M. de Condorcet, and a third for the Academy. The war had interrupted our attempts to improve ourselves in scientific matters, but we now begin to resume them.

The bearer of this is Mr. Paine, the author of a famous piece entitled *Common Sense*, published here with great effect on the minds of the people at the beginning of the Revolution. He is an ingenious, honest man, and as such I beg leave to recommend him to your civilities. He carries with him the model of a bridge of a new construction, his own invention, concerning which I intended to have recommended him to M. Peyronet, but I hear he is no more. You can easily procure Mr. Paine a sight of the models and drawings of the collection appertaining to the *Ponts et Chaussées;* they must afford him useful lights on the subject. We want a bridge over our river Schuylkill, and have no artist here regularly bred to that kind of architecture.

[1] The Duchess d'Enville, mother of the Duke de la Rochefoucauld.—W. T. F.

My grandsons are very sensible of the honor of your remembrance, and desire me to present their respects. With the most sincere and perfect esteem and attachment, I am ever, my dear friend, etc.,

B. FRANKLIN.

MCCCCLV

TO THE COUNT D'ESTAING

PHILADELPHIA, 15 April, 1787.

DEAR SIR:—When I received the two letters you did me the honor of writing to me last year, I was made to hope for the great pleasure of soon receiving you here, in your way to Georgia. That event would have made me very happy. I should have had an opportunity of showing some marks of the respect I bear and always shall for the generous warrior, who fought and bled in the cause of Liberty and my country. The Assembly of that State has granted me 3,000 acres of their land to be located where I can find any vacant. I wish much that it might be near yours: for you contrived to make your neighborhood so agreeable to me at Passy, that I could wish to be your neighbor everywhere.

M. Duplessis [1] stayed here but a few days. I should have been glad of any occasion of being serviceable to him on your account.

The bearer of this is Mr. Paine, author of the celebrated pamphlet, *Common Sense*, by which the Revolution was greatly forwarded: he must be known to

[1] The famous artist who painted the portrait, an engraving of which illustrates the first volume of this work.

you by reputation. Will you permit me to recommend him as a friend of mine to those civilities you have so much pleasure in showing to strangers of merit.

With sincere and great esteem and respect, I am ever, dear sir, etc.,

B. FRANKLIN.

MCCCCLVI

TO THE MARQUIS DE CHASTELLUX

PHILADELPHIA, 17 April, 1787.

DEAR SIR:—Your most pleasing letter, accompanied by the invaluable present of your *Journal*[1] and translation of Colonel Humphrey's poem, came to hand but lately, though dated in June last. I believe they have been in the West Indies. They have given me a great deal of pleasure in the perusal, as every thing of yours always did. The portrait you have made of our country and people is what in painting is called a *handsome likeness*, for which we are much obliged to you. We shall be the better for it, if we endeavor to merit what you kindly say in our favor, and to correct what you justly censure. I am told the *Journal* is translated into English, and printed in one of the States, I know not which, not having seen the translation.

The newspapers tell us, that you are about to have an Assembly of Notables, to consult on improvements of your government. It is somewhat singular

[1] *Journal of Travels in America.*

that we should be engaged in the same project here at the same time; but so it is, and a convention for the purpose of revising and amending our Federal Constitution is to meet at this place next month. I hope both assemblies will be blessed with success, and that their deliberations and counsels may promote the happiness of both nations.

In the State of Pennsylvania, government, notwithstanding our parties, goes on at present very smoothly, so that I have much less trouble in my station than was expected. Massachusetts has lately been disturbed by some disorderly people, but they are now quelled. The rest of the States go on pretty well, except some dissensions in Rhode Island and Maryland respecting paper money. Mr. Paine, whom you know, and who undertakes to deliver this letter to you, can give you full information of our affairs, and therefore I need not enlarge upon them. I beg leave to recommend him to your civilities. I have fulfilled all your commissions to the ladies here, who are much flattered by your kind remembrance of them. My family join in every sentiment of esteem and respect with, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCCLVII

TO THE ABBÉS CHALET AND ARNAUD

PHILADELPHIA, 17 April, 1787.

DEAR FRIENDS:—Your reflections on our situation, compared with that of many nations of Europe,

are very sensible and just. Let me add that only a virtuous people are capable of freedom. As nations become corrupt and vicious, they have more need of masters.

Our public affairs go on as well as can reasonably be expected, after so great an overturning. We have had some disorders in different parts of the country, but we arrange them as they arise, and are daily mending and improving, so that I have no doubt but all will come right in time. Yours,

B. FRANKLIN.

MCCCCLVIII

TO THE MARQUIS DE LAFAYETTE

PHILADELPHIA, 17 April, 1787.

DEAR FRIEND:—I received the kind letter you did me the honor of writing, in February, 1786. The indolence of old age, and the perpetual teasing of too much business, have made me so bad a correspondent that I have hardly written a letter to any friend in Europe during the last twelvemonth; but as I have always a pleasure in hearing from them, which I cannot expect will be continued if I do not write to them, I again take up my pen, and begin with those whose correspondence is of the greatest value, among which I reckon that of the Marquis de Lafayette.

I was glad to hear of your safe return to Paris, after so long and fatiguing a journey. That is the place where your enlightened zeal for the welfare of

our country can employ itself most to our advantage, and I know it is always at work and indefatigable. Our enemies are, as you observe, very industrious in depreciating our national character. Their abuse sometimes provokes me, and I am almost ready to retaliate; but I have held my hand, though there is abundant room for recrimination; because I would do nothing that might hasten another quarrel by exasperating those who are still sore from their late disgraces. Perhaps it may be best that they should please themselves with fancying us weak, and poor, and divided, and friendless; they may then not be jealous of our growing strength, which, since the peace, does really make rapid progress, and may be less intent on interrupting it.

I do not wonder that the Germans, who know little of free constitutions, should be ready to suppose that such cannot support themselves. We think they may, and we hope to prove it. That there should be faults in our first sketches or plans of government is not surprising; rather, considering the times, and the circumstances under which they were formed, it is surprising that the faults are so few. Those in the general confederating articles are now about to be considered in a convention called for that express purpose; these will indeed be the most difficult to rectify. Those of particular States will undoubtedly be rectified, as their inconveniences shall by experience be made manifest. And, whatever difference of sentiment there may be among us respecting particular regulations, the enthusiastic rejoicings, with which the day of declared independence is annually celebrated,

demonstrate the universal satisfaction of the people with the Revolution and its grand principles.

I enclose the vocabulary you sent me, with the words of the Shawanese and Delaware languages, which Colonel Harmar has procured for me. He is promised one more complete, which I shall send you as soon as it comes to my hand.

My grandson, whom you so kindly inquire after, is at his estate in the Jerseys, and amuses himself with cultivating his lands. I wish he would seriously make a business of it, and renounce all thoughts of public employment, for I think agriculture the most honorable, because the most independent, of all professions. But I believe he hankers a little after Paris, or some other of the polished cities of Europe, thinking the society there preferable to what he meets with in the woods of Ancocas, as it certainly is. If he was now here, he would undoubtedly join with me and the rest of my family, who are much flattered by your remembrance of them, in best wishes for your health and prosperity, and that of your whole amiable fireside. You will allow an old friend of fourscore to say he *loves* your wife, when he adds, and children, and prays God to bless them all. Adieu, and believe me ever yours most affectionately,

B. FRANKLIN.

MCCCCLIX

TO M. LE ROY

PHILADELPHIA, 18 April, 1787.

MY DEAR OLD FRIEND:—I believe I have not written to you since I received your kind letter of

July 26, and October 9, 1786. Such has been my continual occupation in public and private business, having the building of three houses upon my hands, that I had no time left for philosophical correspondence. I now take up my pen with the honest resolution of paying off some of my debts.

You mention that M. de Buffon *avoit des douleurs semblables aux miennes*. I sympathize with him. Let me know in your next how he does. I do not understand these dispensations of Providence, though probably they are for the best. But it seems to me that if you or I had the disposition of good and evil in this world, so excellent a man would not have an hour's pain during his existence.

Your account of the progress made in the art of ballooning, by the acquisition of a tight *enveloppe* and the means of descending and rising without throwing out ballast, or letting out air, is very pleasing. I am sorry the artists at Javelle do not continue their experiments. I always thought they were in the likeliest way of making improvements, as they were remote from interruption in their experiments. I have sometimes wished I had brought with me from France a balloon sufficiently large to raise me from the ground. In my malady it would have been the most easy carriage for me, being led by a string held by a man walking on the ground. I should be glad to have Mr. Meunier's work. Pray let Mr. Grand know where he may buy it for me.

It gives me pleasure to hear of the success attending the conductors at Brest and at Dijon. Time will

bring them more into use, and of course make them more useful.

It is a curious fact, that of the death of so many pigeons by lightning without disturbing their position. Pray, when you see M. de Malesherbes, present to him my respects. He is one of the most respectable characters of this age.

Believe me ever, my dear friend, with the sincerest esteem and respect, yours most affectionately,

B. FRANKLIN.

MCCCCLX

TO THOMAS JEFFERSON

PHILADELPHIA, 19 April, 1787.

DEAR SIR:—I have lately received your favor of Dec. 23d. The diplomas I hope are got to hand before this time. I am much obliged by your taking care of my *Encyclopedie*. Mr. Hopkinson will account with you for it.

I am glad to learn that every thing is quiet in Europe, and like to continue so. I hope the same will be the case here; though Bontdefeus are not wanting among us, who by inflammatory writings in the papers are perpetually endeavoring to set us together by the ears about taxes, and certificates, etc. The insurgents in the Massachusetts are quelled, and I believe a great majority of that people approve the measure of government in reducing them. Yet I see that in the late election they have left out the late governor and chosen Mr. Hancock.

But he was always more popular than Mr. Bowdoin, had resigned on account of his infirmities, and his health being mended, his friends have taken advantage of the offence given by Mr. Bowdoin to the malcontents, to increase the number of votes against him. His refusing the bill for reducing the governor's salary has also, I imagine, hurt his interest at this election. So that upon the whole I do not think his not being chosen any proof of general dissatisfaction with the measures taken to suppress the rebellion, or with the Constitution.

Our Federal Constitution is generally thought defective, and a convention, first proposed by Virginia, and since recommended by Congress, is to assemble here next month, to revise it and propose amendments. The delegates generally appointed, as far as I have heard of them, are men of character for prudence and ability, so that I hope good from their meeting. Indeed if it does not do good it must do harm, as it will show that we have not wisdom enough among us to govern ourselves; and will strengthen the opinion of some political writers, that popular governments cannot long support themselves.

I am sorry for the death of M. Peyronet on account of Mr. Paine, who would have been pleased and instructed by conferring with that ingenious and skilful artist on the subject of his bridge, and it was my intention to introduce him to M. Peyronet's acquaintance. I have requested the Duke de Rochefoucauld to procure him a sight of the models and drafts in the Repository of the *Ponts et Chaussées.*

You are well acquainted with Mr. Paine's merit, and need no request of mine to serve him in his views, and introduce him where it may be proper, and of advantage to him.

With great and sincere esteem I have the honor to be your Excellency's most obedient and most humble servant,

B. FRANKLIN.

MCCCCLXI

TO MR. GRAND

PHILADELPHIA, 22 April, 1787.

MY DEAR FRIEND:—I received in its time your favor of September 9th, and approve of your reason for not adding the 1161 livres to the credit of my account. What related to the million was also very satisfactory.

Yours of Dec. 28th and Feb. 7th are just come to hand, together with my account for the year 1786, which appears to be right. I observe you have sold all my actions in the *caisse d'Escompte;* and though I have no longer any concern in that fund, I rejoice to hear of its prosperity. The classics and other books are not come to hand, but Mr. Jefferson will take care to send them. Those you sent by Mr. Franks are received.

Your mention of the malady of M. de Vergennes afflicted me, and much more the news I since hear of his death. So wise and so good a man taken away from the station he filled, is a great loss not only to

France, but to Europe in general, to America, and to mankind.

Not having found the cares of government so burthensome as I apprehended, I consented to serve a second year, and was chosen unanimously by the junction of all parties, so that there was but one negative voice, viz., my own, and that given, as you may suppose, for modesty's sake. The three houses which I began to build last year, are nearly finished, and I am now about to begin two others. Building is an old man's amusement. The advantage is for his posterity. Since my coming home, the market is extended before my ground next the street, and the high rents such a situation must afford, has been one of my inducements.

As often as my draft may be presented to you, exceeding my cash in your hands, I hereby desire you will furnish yourself by immediately disposing of some of my stock in the public funds.

For the best room, in the addition I have made to my dwelling-house, I want a mirror 59½ French inches long, and 43 inches wide, and I request you will send me such an one. As the pacquet boat is henceforth to sail from Havre, it will be easier to have things from Paris than formerly. No frame is to be with it, as it is to be fixed over the chimney.

I continue, thanks to God, in good health. Please to remember me kindly to all my old acquaintance who do me the honor to inquire after me. My grandsons and the rest of my family join me in best wishes of health and happiness to you and yours,

and I am ever, with great and sincere esteem, my dear friend, yours most affectionately,

B. FRANKLIN.

P. S.—I have desired Madame Helvetius to execute a little commission for my daughter. If she does it, I request you would pay the bills.

MCCCCLXII

TO THE ABBÉ MORELLET

PHILADELPHIA, 22 April, 1787.

MY VERY DEAR FRIEND:—I received, though long after they were written, your very agreeable favors of October 30, 1785, and February 9, 1786,[1] with the pieces enclosed, productions of the Auteuil [2] *Academy of Belles Lettres*. Your kind and friendly wishes and congratulations are extremely obliging. It gives me an infinite pleasure to find that I still retain a favorable place in the remembrance of the worthy and the good, whose delightful and instructive society I had the happiness of enjoying while I resided in France.

But, though I could not leave that dear nation without regret, I certainly did right in coming home. I am here in my *niche* in my own house, in the bosom of my family, my daughter and grandchildren all about me, among my old friends, or the sons of my friends, who equally respect me, and who all

[1] See *Mémoires de l'Abbé Morellet*, tom. I., p. 298.

[2] The friends of Madame Helvetius were accustomed to speak of her residence as the Academy.

speak and understand the same language with me; and, you know, that if a man desires to be useful by the exercise of his mental faculties, he loses half their force when in a foreign country, where he can only express himself in a language with which he is not well acquainted. In short, I enjoy here every opportunity of doing good, and every thing else I could wish for, except repose; and that I may soon expect, either by the cessation of my office, which cannot last more than three years, or by ceasing to live.

I am of the same opinion with you respecting the freedom of commerce, especially in countries where direct taxes are practicable. This will be our case in time when our wide-extended country fills up with inhabitants. But at present they are so widely settled, often five or six miles distant from one another in the back country, that a collection of a direct tax is almost impossible, the trouble of the collectors' going from house to house amounting to more than the value of the tax. Nothing can be better expressed than your sentiments are on this point, where you prefer liberty of trading, cultivating, manufacturing, etc., even to civil liberty, this being affected but rarely, the other every hour. Our debt occasioned by the war being heavy, we are under the necessity of using imposts, and every method we can think of, to assist in raising a revenue to discharge it; but in sentiment we are well disposed to abolish duties on importation, as soon as we possibly can afford to do so.

Whatever may be reported by the English in Europe, you may be assured, that our people are

almost unanimous in being satisfied with the Revolution. Their unbounded respect for all who were principally concerned in it, whether as warriors or statesmen, and the enthusiastic joy with which the day of the declaration of independence is everywhere annually celebrated, are indubitable proofs of this truth. In one or two of the States there have been some discontents on partial and local subjects; these may have been fomented, as the accounts of them are exaggerated, by our ancient enemies; but they are nearly suppressed, and the rest of the States enjoy peace and good order, and flourish amazingly. The crops have been good for several years past, the price of country produce high, from foreign demand, and it fetches ready money; rents are high in our towns, which increase fast by new buildings; laborers and artisans have high wages well paid, and vast tracts of new land are continually clearing and rendered fit for cultivation.

The pains you have taken to translate the congratulatory addresses, which I received on my arrival, is a fresh proof of the continuance of your friendship for me, which has afforded me as much satisfaction as the addresses themselves, and you will readily believe that for me this is not saying little; for this welcome of my fellow-citizens has far surpassed my hopes. Popular favor, not the most constant thing in the world, stands by me. My election to the presidency for the second year was unanimous. Will this disposition continue the same for the third? Nothing is more doubtful. A man who holds a high office finds himself so often exposed

to the danger of disobliging some one in the fulfilment of his duty, that the resentment of those whom he has thus offended, being greater than the gratitude of those whom he has served, it almost always happens that, while he is violently attacked, he is feebly defended. You will not be surprised then if you learn that I have not closed my political career with the same *éclat* with which it commenced.

I am sorry for what you tell me of the indisposition you have experienced. I sometimes wonder that Providence does not protect the good from all evil and from every suffering. This should be so in the best of worlds; and, since it is not so, I am piously led to believe that, if our world is not indeed the best, we must lay the blame on the bad quality of materials of which it is made. I am, my dear friend, with sincere esteem and affection, ever yours,

B. FRANKLIN.

MCCCCLXIII

TO THOMAS JORDAN

PHILADELPHIA, 18 May, 1787.

DEAR SIR:—I received your very kind letter of February 27th, together with the cask of porter you have been so good as to send me. We have at present what the French call *une assemblée des notables*, a convention composed of some of the principal people from the several States of our Confederation. They did me the honor of dining with me last Wednesday, when the cask was broached, and its contents met with the most cordial reception

and universal approbation. In short, the company agreed unanimously that it was the best porter they had ever tasted. Accept my thanks, a poor return, but all I can make at present.

Your letter reminds me of many happy days we have passed together, and the dear friends with whom we passed them; some of whom, alas! have left us, and we must regret their loss, although our Hawkesworth is become an *Adventurer* in more happy regions; and our Stanley[1] gone, "where only his own *harmony* can be exceeded." You give me joy in telling me that you are "on the pinnacle of *content*." Without it no situation can be happy; with it, any. One means of becoming content with one's situation is the comparing it with a worse. Thus, when I consider how many terrible diseases the human body is liable to, I comfort myself that only three incurable ones have fallen to my share, viz.: the gout, the stone, and old age; and that these have not yet deprived me of my natural cheerfulness, my delight in books, and enjoyment of social conversation.

I am glad to hear that Mr. Fitzmaurice is married, and has an amiable lady and children. It is a better plan than he once proposed, of getting Mrs. Wright to make him a wax-work wife to sit at the head of his table. For after all wedlock is the natural state of man. A bachelor is not a complete human being. He is like the odd half of a pair of scissors, which has not yet found its fellow, and therefore is not even half so useful as they might be together.

[1] John Stanley, an eminent musician and composer, became blind at the age of two years.—W. T. F.

I hardly know which to admire most; the wonderful discoveries made by Herschel, or the indefatigable ingenuity by which he has been enabled to make them. Let us hope, my friend, that, when free from these bodily embarrassments, we may roam together through some of the systems he has explored, conducted by some of our old companions already acquainted with them. Hawkesworth will enliven our progress with his cheerful, sensible converse, and Stanley accompany the music of the spheres.

Mr. Watmaugh tells me, for I immediately inquired after her, that your daughter is alive and well. I remember her a most promising and beautiful child, and therefore do not wonder that she is grown, as he says, a fine woman. God bless her and you, my dear friend, and every thing that pertains to you, is the sincere prayer of yours most affectionately,

B. FRANKLIN.

MCCCCLXIV

TO GEORGE WHATELY

PHILADELPHIA, 18 May, 1787.

I received duly my good old friend's letter of the 19th of February. I thank you much for your notes on banks; they are just and solid, as far as I can judge of them. Our bank here has met with great opposition, partly from envy, and partly from those who wish an emission of more paper money, which they think the bank influence prevents. But it has stood all attacks, and went on well, notwithstanding the Assembly repealed its charter. A new Assembly

has restored it; and the management is so prudent, that I have no doubt of its continuing to go on well. The dividend has never been less than six per cent., nor will that be augmented for some time, as the surplus profit is reserved to face accidents. The dividend of eleven per cent., which was once made, was from a circumstance scarce avoidable. A new company was proposed; and prevented only by admitting a number of new partners. As many of the first set were averse to this, and chose to withdraw, it was necessary to settle their accounts; so all were adjusted, the profits shared that had been accumulated, and the new and old proprietors jointly began on a new and equal footing. Their notes are always instantly paid on demand, and pass on all occasions as readily as silver, because they will always produce silver.

Your medallion is in good company; it is placed with those of Lord Chatham, Lord Camden, Marquis of Rockingham, Sir George Saville, and some others, who honored me with a show of friendly regard, when in England. I believe I have thanked you for it, but I thank you again.

I believe, with you, that if our Plenipo is desirous of concluding a treaty of commerce, he may need patience. If I were in his place, and not otherwise instructed, I should be apt to say: "Take your own time, gentlemen. If the treaty cannot be made as much to your advantage as to ours, don't make it. I am sure the want of it is not more to our disadvantage than to yours. Let the merchants on both sides treat with one another. *Laissez-les faire.*"

I have never considered attentively the Congress scheme for coining, and I have it not now at hand, so that at present I can say nothing to it. The chief uses of coining seem to be the ascertaining the fineness of the metals, and saving the time that would otherwise be spent in weighing to ascertain the quality. But the convenience of fixed values to pieces is so great, as to force the currency of some whose stamp is worn off, that should have assured their fineness, and which are evidently not of half their due weight; the case at present with the sixpences in England, which, one with another, do not weigh threepence.

You are now seventy-eight, and I am eighty-two; you tread fast upon my heels; but, though you have more strength and spirit, you cannot come up with me till I stop, which must now be soon; for I am grown so old as to have buried most of the friends of my youth, and I now often hear persons whom I knew when children, called *old* Mr. such-a-one, to distinguish them from their sons now men grown and in business; so that, by living twelve years beyond David's period, I seem to have intruded myself into the company of posterity, when I ought to have been abed and asleep. Yet, had I gone at seventy, it would have cut off twelve of the most active years of my life, employed too in matters of the greatest importance; but whether I have been doing good or mischief is for time to discover. I only know that I intended well, and I hope all will end well.

Be so good as to present my affectionate respects to Dr. Riley. I am under great obligations to him,

and shall write to him shortly. It will be a pleasure to him to know that my malady does not grow sensibly worse, and that is a great point; for it has always been so tolerable, as not to prevent my enjoying the pleasures of society, and being cheerful in conversation. I owe this in a great measure to his good counsels. Adieu, my dear friend, and believe me ever yours most affectionately,

B. FRANKLIN.

MCCCCLXV

FROM COUNT DE CAMPOMANES

MADRID, 24 May, 1787.

SIR:—I have received your letter of the 4th of December, directed to me as a member of the American Philosophical Society, and accompanied by the second volume of the *Transactions* of the Society, containing the statutes of that body, a list of its members, and various experiments, observations, and writings chiefly relative to the natural and exact sciences. For this mark of attention I am much indebted to your Excellency, as well as to our Society, in whose works I now feel a personal interest, since they have done me the honor to make me one of their body. In these writings also I discover so much judgment, sound criticism, and intelligence, in regard to the subjects on which they treat, that I am persuaded they will contribute effectually to extend and promote useful knowledge, the laudable object for which our Society was instituted; and its

labors, being renewed by the return of peace, may soon rival those of the most ancient and celebrated institutions of a similar kind in Europe.

In the midst of my public duties at the head of the Council, which station I have held for the last three years, the Society and its illustrious president will always find me ready to contribute to its service, as far as the circumstances of my situation will admit, and as often as subjects occur which may appear to answer the ends in view.

With the books which our Academy of History has sent to your Excellency is the first volume of the *Diccionario Español, Latino-Arabigo*, printed under my direction. I have prefixed to it a discourse on the utility of the study of the Arabic language, particularly for Spaniards, a consideration which induced me to devote to the study of this language, in my youth, such leisure as I could spare from the business of my profession. The remaining volumes are in press, and I shall take care to forward them as soon as they are published. Your letter, with the gift accompanying it, has renewed the sentiments of gratitude which I entertained for your former favors, and the esteem and friendship which I have always expressed for your character. May your life be prolonged many and happy years. I am, etc.,

COUNT DE CAMPOMANES.

MCCCCLXVI

TO MRS. JANE MECOM

PHILADELPHIA, 30 May, 1787.

DEAR SISTER:—In your letter of March 9th, you mention that you wanted to know all about my buildings. To the east end of my dwelling-house I have made an addition of 16½ feet wide and 33 feet long, that is the whole length of the old house, so that the front and back of the old and new building range even, and the row of windows, eaves, and roof are continued so as to appear but one building. By this addition I have gained a large cellar for wood, a drawing-room or dining-room on the same level with our old dining-room, in which new room we can dine a company of 24 persons, it being 16 feet wide and 30½ long; and it has two windows at each end, the north and south, which will make it an airy summer room; and for winter there is a good chimney in the middle, made handsome with marble slabs. Over this room is my library, of the same dimensions, with like windows at each end, and lined with books to the ceiling. Over this are two lodging-rooms; and over all a fine garret. The way into the lower room is out of the entry passing by the foot of the stairs. Into the library I go through one of the closets of the old drawing-room or bed-chamber. And into the two new rooms above through a passage cut off from the nursery. All these rooms are now finished and inhabited, very much to the convenience of the family, who were before too much crowded.

The two new houses next the street are three stories high, besides the garrets, and an arched passage is left in the middle between them to come through down to my dwelling, wide enough for a carriage; so that I have the old passage lot left free to build another house. The two houses are 24 feet front each, and 45 deep. We are all well, and join in love to you and yours. I am ever your affectionate brother.

B. FRANKLIN.

MCCCCLXVII

FROM THOMAS PAINE

PARIS, 22 June, 1787.

MY DEAR SIR:—We left New York on the 26th of April, and arrived at Havre de Grâce on the 26th of May. I set off in company with M. Gernon, a French gentleman, passenger from America, for Paris. I stayed one day at Rouen to take a view of the place from whence the kings of England date their origin. There are yet some remains of the palaces of the dukes of Normandy; but the Parliament House has such a resemblance to Westminster Hall, I mean the great hall as you enter, that, had I not known I had been in Normandy, I might have supposed myself at London. The breadth of the room is nearly seventy feet, and the roof is constructed exactly in the manner of that at Westminster. The country from Havre to Rouen is the richest I ever saw. The crops are abundant, and the cultivation in nice and beautiful order. Every thing appeared

to be in fulness; the people very stout, the women exceedingly fair, and the horses of a vast size and very fat. I saw several at Havre that were seventeen hands high. I deposited the model of the bridge at the custom-house, the superintendent of which undertook to send it to Paris as soon as an order should be procured for that purpose, as he did not think himself authorized to do it without, it being an imported article.

I arrived at Paris on the 30th May, and the next day began delivering the letters you were so kind as to honor me with. My reception here, in consequence of them, has been abundantly cordial and friendly. I have received visits and invitations from all who were in town. The Duke de Rochefoucauld and General Chastellux are in the country. I dined yesterday with an old friend of yours, M. Malesherbes, who is of the new Council of Finances, and who received me with a heartiness of friendship. It must have been a very strong attachment to America that drew you from this country, for your friends are very numerous and very affectionate.

M. Le Roy has been most attentively kind to me. As he speaks English, there is scarcely a day passes without an interview. He took me a few days ago to see an old friend of yours, M. Buffon, but we were informed by the servant that he was very ill, and under the operation of medicine, on which we deferred our intention. In the evening he sent me an invitation to see an exhibition of fireworks of a new kind, made of inflammable air. It was done as an experiment. The exhibition was in a room. The

performer had two large bladders of air, one under each arm, with pipes from them communicating with the figures to be represented, such as suns, moons, stars, flowers, architecture, and figures of moving machinery. By compressing the bladders and mixing the air, he produced the most beautiful and sudden transitions of light and colors, increased or diminished the motion, and exhibited the most pleasing scene of that kind that can be imagined.

The model from Havre is not yet arrived, but a letter received from thence yesterday informs me that it is on the road, and will be here in about eight days. There is a great curiosity here to see it, as bridges have lately been a capital subject. A new bridge is begun over the Seine, opposite the Palais de Bourbon and the Place de Louis Quinze. It is about the breadth of the Schuylkill, and, the Abbé Morley tells me, will cost five millions of livres. It is on piers.

Your old friend, M. Terenet, the bridge architect, is yet living. I was introduced to him by M. Le Roy. He has taken a residence in the Elysian Fields for the purpose of being near the works. He has invited me to see his house at Paris, where all his drawings and models are. By the next packet I will write to you respecting the opinion of the Academy on the model. I shall be obliged to Mr. Clymer to send me some Philadelphia and American news. Please to present me with much respect to your family, and to all my good friends around you. I am, dear sir, your affectionate and obedient servant,

THOMAS PAINE.

MCCCCLXVIII

PROPOSALS FOR CONSIDERATION IN THE CONVENTION FOR FORMING THE CONSTITUTION OF THE UNITED STATES

26 June, 1787.

That the legislatures of the several States shall choose and send an equal number of delegates, namely, ——, who are to compose the second branch of the general legislature.

That, in all cases or questions wherein the sovereignties of the individual States may be affected, or whereby their authority over their own citizens may be diminished, or the authority of the general government within the several States augmented, each State shall have *equal* suffrage.

That, in the appointment of all civil officers of the *general government*, in the election of whom the second branch may, by the Constitution, have part, each State shall have *equal* suffrage.

That, in fixing the salaries of such officers, in all allowances for public services, and generally in all appropriations and dispositions of money, to be drawn out of the general treasury, and in all laws for supplying the treasury, the delegates of the several States shall have suffrage *in proportion to the sums their respective States had actually contributed to that treasury from their taxes or internal excises.*

That, in case general duties should be laid by impost on goods imported, a liberal estimation shall be made of the amount of such impost paid in the price of the commodities by those States that import but

little, and a proportionate addition shall be allowed of suffrage to such States, and an equal diminution of the suffrage of the States importing.

Remarks

The steady course of public measures is most probably to be expected from a number.

A single person's measures may be good. The successor often differs in opinion of those measures, and adopts others; often is ambitious of distinguishing himself by opposing them, and offering new projects. One is peaceably disposed; another may be fond of war, etc. Hence foreign states can never have that confidence in the treaties or friendship of such a government, as in that which is conducted by a number.

The single head may be sick; who is to conduct the public affairs in that case? When he dies, who are to conduct till a new election? If a council, why not continue them? Shall we not be harassed with factions for the election of successors; and become, like Poland, weak from our dissensions?

Consider the present distracted condition of Holland. They had at first a Stadtholder, the Prince of Orange, a man of undoubted and great merit. They found some inconveniences, however, in the extent of powers annexed to that office, and exercised by a single person. On his death they resumed and divided those powers among the states and cities; but there has been a constant struggle since between that family and the nation. In the last century the then

Prince of Orange found means to inflame the populace against their magistrates, excite a general insurrection, in which an excellent minister, Dewitt, was murdered, all the old magistrates displaced, and the Stadtholder re-invested with all the former powers. In this century, the father of the present Stadtholder, having married a British princess, did, by exciting another insurrection, force from the nation a decree, that the stadtholdership should be thenceforth hereditary in his family. And now his son, being suspected of having favored England in the war, and thereby lost the confidence of the nation, is forming an internal faction to support his power, and reinstate his favorite, the Duke of Brunswick; and he holds up his family alliances with England and Prussia to terrify opposition. It was this conduct of the Stadtholder which induced the states to recur to the protection of France, and put their troops under a French, rather than the Stadtholder's German general, the Duke of Brunswick. And this is the source of all the present disorders in Holland, which, if the Stadtholder has abilities equal to his inclinations, will probably, after a ruinous and bloody civil war, end in establishing an hereditary monarchy in his family.

MCCCCLXIX

FROM COUNT DE BUFFON

Au Jardin du Roi, 18 July, 1787.

My Dear Sir:—I always feel under great obligations to you in finding that you sometimes think of

me, and that, in the midst of your great occupations, you have been so thoughtful as to send me seeds and rare plants for the king's garden. I should be delighted to learn something of the progress of your Philosophical Society, of which you have been kind enough to elect me a member. I have just finished my *Histoire Naturelle de Minéraux*, and if the Society does not possess this work, or if any volume is missing, I should be most happy to forward it to you.

Tell me also about your health, which is much better than mine. My pains are not very severe, but they are almost without intermission. Your example, however, makes me hope that they may all go off; for I understand that, since your return to America, your health has been restored. I should like to hear so from yourself, and to learn if you have used any particular remedy. None of those which I have taken thus far have been of any avail, a mild treatment being absolutely the only one which I can bear. As your advice would certainly be useful to me, and I should have more confidence in you than in all the physicians, I should be glad to know from yourself what treatment or remedies you have found most beneficial. Accept the sentiments of strong and tender attachment, with which I shall ever remain, etc.,

COUNT DE BUFFON.

P. S.—I am now printing a treatise on the properties and use of the magnet, in which I show the close connection of electricity with magnetism, and with the action of subterraneous fires in volcanoes. I shall have the honor to send it to you, as soon as it

is out. My friend, M. Fanjas de Saint Fond, who has a great regard for you, desires me to present to you his respects.

MCCCCLXX

FROM THE ABBÉ MORELLET

AUTEUIL, 31 July, 1787.

MY DEAR FRIEND:—I cannot express to you the pleasure your letters gave us, especially the details into which you have gone respecting your health, and all that particularly concerns yourself. It is a delightful thought to us, and one on which we love to dwell, that at the age to which you have attained, and after having pursued so honorable a career, you have found in the bosom of your own country all those enjoyments of which your age is susceptible. You know how much we desire their long continuance. Believe me, our happiness would be incomplete without this hope. I say this in the name of the whole *Academy* of Auteuil.

Since its productions have afforded you an hour's amusement, here are more of them, on which I shall be much pleased to have your opinion, and that of your friends. They are, moreover, in your own vein of pleasantry, and somewhat, I conceive, in that of Swift, with rather less of his dark misanthropy. At any rate, Dr. Jonathan and Dr. Benjamin are the models on whom I fixed my eyes; and perhaps Nature herself has given me something of the turn of both in the art of speaking the truth in a jesting way,

or without seeming to speak it. The difficulty is, that one cannot laugh outright at every thing which is truly laughable.

In the dedication of your college in the County of Lancaster, and the fine procession, and the religious ceremony, where were met together Presbyterians, Episcopalians, Lutherans, Catholics, Moravians, *e tutti quanti*, there was toleration in practice. I have translated the whole of the pamphlet which you sent me, and had it inserted in our *Mercury*. I think, indeed, that many readers will not perceive its scope, but it will not be thrown away upon every one. You see that I continue to diffuse, as far as is in my power, religious tolerance; but, for all this, I do not neglect the spirit of commercial liberality, and I fear that the latter makes too little progress among you. The duties on foreign merchandise, which you think necessary in your country, because you cannot levy direct taxes there, I consider as opposed to freedom of trade, when they are resorted to as sources of revenue; but I fear lest they should come to be looked upon among you, in the same light that they are throughout Europe, as a fine stroke of policy, intended to increase national commerce and wealth at the expense of foreign commerce and wealth, which is arrant folly.

I have reason to think that you may follow our example on this point, since reading a pamphlet printed at Philadelphia, and, as the title-page bears, read before the Society for Political Inquiry, at your house, yourself being present. In this the author recommends duties and prohibitions to secure

navigation from port to port in America; as if, with all her advantages in this line, she had any cause to fear the rivalry of foreign nations; as if she had not many more profitable modes of employing her capital and her men; as if restraints upon her own commerce and that of foreign nations, resulting from such legislation, would not cause her to lose more than she could expect to gain; as if she needed any other commercial regulations than would naturally grow out of a good market for her staple commodities, her fisheries, and the like.

When you spoke to me of duties on imports, which you said you were obliged to impose, in order to defray the public expenses and for the payment of the national debt, and which you should repeal as soon as you could do without them and could levy a land-tax, although I did not approve such practice, yet I looked upon it as honest, and perhaps necessary for a time. You impose duties that you may raise money; this is plain. But the author of your pamphlet levies imposts to secure to America her navigation, and a balance of trade in her favor. He already follows in the steps of European governments, who have disguised all the tyranny they have exercised over commerce under these false pretences; and I confess I should be very sorry to see you pursuing the same crooked course.

You have learned from the common channels of news what great changes have taken place here. On this head there is too much to be said, to make it the subject of a letter. The most important events, and the acts of M. de Calonne, of the Assembly of

Notables, and of the new administration, may all be found in great printed books, some copies of which will doubtless cross the Atlantic and reach your hands. If you take any interest in these things, they will afford you greater facilities of information respecting them, than a letter could do. The only thing I can tell you, which may be interesting to you, is, that our new Minister of Finance, the Archbishop of Toulouse, is a very well informed and intelligent man, well skilled in managing affairs and men familiar with all sound principles, and having resolution to put them in practice. You must know, that entire freedom of trade finds a place among the maxims of his administration, and that he will subject it to no restriction, but such as he may be forced to lay upon it by circumstances, which he will always endeavor to remove and alter, as far as may be in his power. You are not ignorant, perhaps, that I can testify as to his way of thinking, since I have learned it in an acquaintance of nearly forty years, which still subsists.

Here is some hope for our country; but previous disorders, and other causes, which I shall not mention to you, may thwart or retard, more or less, the measures of this new administration, and a crisis is at hand that may lay all our hopes in the dust. But no matter; I still hope, as you know, in the further progress of the human race; and I have taken it into my head to embody this sentiment in a little allegory which I send you.

Our *Lady of Auteuil* [1] enjoyed highly all the good

[1] Madame Helvetius.

news you communicated to us about yourself, and especially the letter you addressed to her. She will answer you, as will also the Abbé de la Roche. Her cats have somewhat diminished in numbers, thanks to the bull-dog your grandson left with us. The trouble is, that no one will rid us of *Boulet*, which is the French name she has given him. Here he still is for our sins. His mistress places him at her side, on one of her fourteen *chaises-longues*, and he is the master of the house, we his humble servants obliged to open the door for him about forty or fifty times in an evening. But she received him from your grandson, and that is a good reason for us to bear patiently all the trouble he inflicts on us.

We are looking impatiently for news of the proceedings of your convention for uniting together the parties in your political State—a union, without which you can have neither perfect prosperity nor real tranquillity. The work [1] of your excellent countryman, Mr. Jefferson, which I have translated, has been much liked here. It has been very well received, and I consider its principles very sound, and the facts well arranged. If any thing appears in your country, which you at all like, especially relating to subjects connected with commerce, or to your Constitution, I shall be much obliged to you if you will take advantage of some opportunity to send it to me.

Mr. Paine came to me in due time. He may have written you word that I had restored to him his iron bridge, which our revenue officers had seized at

[1] *Notes on Virginia.*

Havre as contraband goods, or subject to duties; but it appeared on examination that the custom-house had really neither prohibited nor taxed bridges, which have hitherto been built only in the very places where they were to be used. The custom-house officers had not foreseen that it might one day happen that a bridge should be constructed in Philadelphia or New York, to be thrown over the Seine in Paris. They are now aware of the fact, and will not forget this article in the new tariff. They must also enter houses on the list, if you acquire the habit of making them for Europeans.

Yesterday the Parliament of Paris (urged for three weeks and more to record a stamp tax, with a new land tax, in order, by new financial resources, to cover the enormous deficit which M. de Calonne had suffered to take place in our affairs) moved and seemed to adhere to the following resolution: "That this Parliament has not the power nor right to accept and sanction new imposts; that this right pertains only to the States-General of the kingdom, which the king is besought to convoke immediately." What an important change you here see in the maxims of our sovereign courts, which have, at least for several ages, exercised and maintained the right, which they seem now to renounce. The most acute politicians can foresee but imperfectly to what this demand, and an Assembly of the States-General, should it take place, will lead. The event alone can enlighten us on this point. It may be seen by this fact, as well as by many others, that a great change has taken place in the ideas which nations have

entertained of governments, and the relations between the governing and governed parties. I must still believe, in accordance with my principles concerning the perfectibility of the human race, that every thing is for the best, to which we are ever tending, though we sometimes seem to recede from it.

We do not hear often enough from Mr. Franklin, your grandson. I wish to know how he likes Philadelphia, and whether he does us the honor to feel any regrets on our behalf; I mean, as respects our way of life; for, as regards ourselves individually, he would be very ungrateful not to do so, since he owes some remembrance to persons who have known both his talents and his amiable character, and have appreciated them. I beg that he will rank me in this number, and accept my compliments. Monsieur and Madame Marmontel, and all my family, desire to be remembered to you, and charge me to express to you the pleasure they feel in the good news you gave us of your health and situation. I shall never forget the happiness I have enjoyed in knowing you, and seeing you intimately. I write to you from Auteuil, seated in your arm-chair, on which I have had engraved *Benjamin Franklin hîc sedebat* and having by my side the little bureau, which you bequeathed to me at parting, with a drawerful of nails to gratify the love of nailing and hammering, which I possess in common with you. But, believe me, I have no need of all these helps to cherish your endeared *remembrance*, and to love you,

"Dum memor ipse mei, dum spiritus hos reget artus."

THE ABBÉ MORELLET.

MCCCCLXXI

FROM MADAME HELVETIUS [1]

July, 1787.

quelle bonheur, vous avez répendu, mon cher franklin, dans notre petite retraitre nous nous somme toutes assemblé pour lire et relire vos charmente lettre que vous avez de ma vie interieures, de jours que vous avez passé avec nous, du bien que vous avez rependue dans nous aine; je ne vous quittoist jaimais fort en valoir mieux le lendemin écrive moi souvent mon cher ami, vos lettres produises presque le même effait sur moi par ce quelle me rappelle plus fortement toutes vos vertues, et ces beaux caracteres, noble, et simple que j'admire tant en vous: nous ne nous revoir donc plus dans ce monde, h'o mon cher ami, que ce soit donc dans lautre; les detail de votre vie interieur menchante, j'aime cette charmente Md. biche—qui ne vie que pour vous, et qui c'est pour vous donnée plus l'object que puisse contribuée a votre bonheur ces sir enfent font surement, bon, et emable, comme benjamin le vrai bonheur et bien dans la fammille, et dans ses amies quand les circonstance?

[1] Though the residence of Madame Helvetius at Auteuil was called *The Academy* in honor of the savants who frequented her salon, her own accomplishments in writing and spelling seem to have been like Beatrice's, "having in beard but a younger brother's revenue." It is not easy to decide from the specimens we have of their script, whether her own or Mrs. Deborah Franklin's early education had been most neglected. So far as we know, this is the only letter of Madame Helvetius that was ever published as it was written. The original may be seen among the Franklin papers in the Philosophical Society at Philadelphia.

comme a moi. je voye souvent mes petite etoilles et mes toutes petites étoilles; mais je ne vie pas tout les jours avec (elles et el faut vive tous les jours avec ce que lon aime), j'ai donc toujours mes trois amies qui ne me quittent pas du tout et aux quelle je Suis absolument necessaire comme il me les sont, ma santé n'est plus aussi bonne que vous l je devient vielle mon cher bonne ami, et je ment consolle par ce que me raprocher davantage de vous, nous nous raison philosophiquement et plus tôt nous retrouverons avec tout ce que nous avons aimé, moy en mary, et vous une femme mais je croye vous qui avez été un quoquain que vous en retroveraye plus d'une, mon cher franklin je vous envoye pour Md biche ce qui étoist marque dans la petite notte qui je croie d'elle, et j'ajoute une petite redingotte faite pour moi. qui lui servira de modelle si elle trouvé cette abillement comode. Comme j'en ait fait faire deux je lui en envoye une l'etoffe n'est pas belle, mais c'est un des modele qui peut me plaire.

dite à bainjamin que je me recommande toujours a lui pour les cardinal quand il viendera en france on un de ces ami il me les aportera. je ne suis pas pressé dutout; 'attenderaye, car je ne veux point ces jolie créature morte, j'attenderaye. adieu mon cher bon ame, je vous embrace de toutes mes forces, de toutes mon ame mille baisé aussi à vos deux petites enfents, que je connais, je croix que vous ne puisse pas lire mon grifanage, mes amis que vous écrive vont encore vous parlez de moi et d'une maniere plus comode pour vous. adieu, mon cher et bonne ami.

VIGNIVILLE HELVÉTIUS.

MCCCCLXXII

TO MRS. JANE MECOM

PHILADELPHIA, 20 September, 1787.

DEAR SISTER:—I received your kind letter of the 16th past, which gave me the great pleasure of learning that you were well. I thought I had before acknowledged the receipt of yours per Colonel Sergeant.

The Convention finished the 17th instant. I attended the business of it five hours in every day from the beginning, which is something more than four months. You may judge from thence that my health continues; some tell me I look better, and they suppose the daily exercise of going and returning from the Statehouse has done me good. You will see the Constitution we have proposed in the papers. The forming of it so as to accommodate all the different interests and views was a difficult task; and, perhaps, after all, it may not be received with the same unanimity in the different States that the Convention have given the example of in delivering it out for their consideration. We have, however, done our best, and it must take its chance.

I agree with you perfectly in your disapprobation of war. Abstracted from the inhumanity of it, I think it wrong in point of human prudence; for, whatever advantage one nation would obtain from another, whether it be part of their territory, the liberty of commerce with them, free passage on their rivers, etc., it would be much cheaper to purchase such advantage with ready money, than to pay the

expense of acquiring it by war. An army is a devouring monster, and, when you have raised it, you have, in order to subsist it, not only the fair charges of pay, clothing, provisions, arms, and ammunition, with numberless other contingent and just charges, to answer and satisfy, but you have all the additional knavish charges of the numerous tribe of contractors to defray, with those of every other dealer who furnishes the articles wanted for your army, and takes advantage of that want to demand exorbitant prices. It seems to me that, if statesmen had a little more arithmetic, or were more accustomed to calculation, wars would be much less frequent. I am confident that Canada might have been purchased from France for a tenth part of the money England spent in the conquest of it. And if, instead of fighting with us for the power of taxing us, she had kept us in good humor by allowing us to dispose of our own money, and now and then giving us a little of hers, by way of donation to colleges, or hospitals, or for cutting canals, or fortifying ports, she might have easily drawn from us much more by our occasional voluntary grants and contributions, than ever she could by taxes. Sensible people will give a bucket or two of water to a dry pump, that they may afterward get from it all they have occasion for. Her ministry were deficient in that little point of common sense. And so they spent one hundred millions of her money, and after all lost what they contended for.

I lament the loss your town has suffered this year by fire. I sometimes think men do not act like reasonable creatures, when they build for themselves

combustible dwellings, in which they are every day obliged to use fire. In my new buildings, I have taken a few precautions, not generally used: to wit, none of the wooden work of one room communicates with the wooden work of any other room; and all the floors, and even the steps of the stairs, are plastered close to the boards, besides the plastering on the laths under the joists. There are also trap-doors to go out upon the roofs, that one may go out and wet the shingles in case of a neighboring fire. But, indeed, I think the staircases should be stone, and the floors tiled as in Paris, and the roofs either tiled or slated.

I am much obliged to your friend and neighbor Mr. Lathrop, for his kind present, and purpose writing to him. It is a discourse well written.

I sent you lately a barrel of flour, and I blame myself for not sooner desiring you to lay in your winter's wood, and drawing upon me for it as last year. But I have been so busy. To avoid such neglect in future, I now make the direction general, that you draw on me every year for the same purpose.

Adieu, my dear sister, and believe me ever your affectionate brother,

B. FRANKLIN.

MCCCCLXXIII

TO ARTHUR ST. CLAIR AND OTHER DELEGATES IN CONGRESS

IN COUNCIL, PHILADELPHIA, 20 September, 1787.

GENTLEMEN:—Enclosed is a letter to General Clinton, which we send unsealed for your perusal,

with the several papers of intelligence that accompany it. The Council have thought of sending a few resolute men, authorized to apprehend and bring off Franklin and Jenkins; but if they should be on the York side of the line, it might be impracticable, without the concurrence of that government. You will see that we have requested the Governor to have a conference with you on the subject, in which, if it take place, we desire you would not only discuss what may be proper for securing the ringleaders of the sedition, but concert some general measures for the two States to take, that it may be effectually and totally suppressed, and that you would report to us the result of your conference as soon as may be.

P. S.—You will see the propriety and necessity of keeping the proceedings secret, as well as the names of the informers, and you will return the enclosed papers.

[The letter to Governor Clinton which was enclosed was as follows.]

IN COUNCIL, 22 September, 1787.

SIR:—Your Excellency will see by the papers and letters of intelligence, which I have the honor of communicating to you, that there are a number of disorderly people collecting near the line that divides our two States, who are impatient of regular government, and seize upon and presume to dispose of lands contrary to and in defiance of the laws. It has appeared to me by other evidence that their numbers are daily increasing by vagabonds from all quarters,

and that they expect reinforcements from Shay's late partisans, and purpose defending their proceedings by force of arms. Your Excellency will be sensible with us of the mischief such a body of banditti may be capable of occasioning to both our States if suffered to increase and establish themselves in that country, the vicinity of the boundary line affording them at present an imaginary security, since, if pursued by the authority of one of the States, they can easily step over into the others. Your Excellency's readiness, manifested on other occasions, to aid the operations of general justice, even in neighboring governments, leaves no room to doubt of your concurring with us in the measures that may be necessary to defeat the projects of those people, some of whose leaders are said to be inhabitants of your State. For the concerting such measures the council of this government unanimously and earnestly request your Excellency would be pleased to permit our delegates in Congress to have a conference with you.

I have the honor to be, etc.,

B. FRANKLIN, *President.*

IN COUNCIL, 26 September, 1787.

SIR:—You are to take what number of militia you think necessary, and proceed with the greatest despatch to Wilkesbarre, in the County of Luzerne. When there, if you think it necessary, consult Colonel Pickering on the best method you can take to apprehend John Franklin, John Jenkins, Zerah Beach, and

John McKinstry. Should you take all or any of these men prisoners, you are to bring them to Philadelphia. If you take Franklin at Wilkesbarre do not proceed any farther, or run the risk of losing him by endeavoring to apprehend the others. Council have the utmost reliance on your secrecy and your prudence in conducting this affair. If opposed by force, you are to use force, and execute the warrant at all events.

B. FRANKLIN, *President.*

To Colonel John Craig.

MCCCCLXXIV

FROM RICHARD PRICE

HACKNEY, 26 September, 1787.

MY DEAR FRIEND:—I am very happy when I think of the encouragement which you have given me to address you under this appellation. Your *friendship* I reckon indeed one of the distinctions of my life. I frequently receive great pleasure from the accounts of you which Dr. Rush and Mr. Vaughan send me. But I receive much greater pleasure from seeing your own hand.

I have lately been favored with two letters, which have given me this pleasure, the last of which acquaints me that my name has been added to the number of the corresponding members of the Pennsylvania Society for Abolishing Negro Slavery, of which you are president, and also brought me a pamphlet containing the constitution and the laws

of Pennsylvania which relate to the object of the Society. I hope you and the Society will accept my thanks, and believe that I am truly sensible of the honor done me. As for any services I can do, they are indeed but small; for I find that, far from possessing in the decline of life your vigor of body and mind, every kind of business is becoming an incumbrance to me. At the same time, the calls of business increase upon me, as you will learn in some measure from the Report at the end of the Discourse, which you will receive with this letter.

A similar institution to yours, for abolishing negro slavery, is just formed in London, and I have been desired to make one of the acting committee, but I have begged to be excused. I have sent you some of their papers. I need not say how earnestly I wish success to such institutions. Something, perhaps, will be done with this view by the convention of delegates.[1] This convention, consisting of many of the first men in respect of wisdom and influence in the United States, must be a most august and venerable assembly. May God guide their deliberations. The happiness of the world depends in some degree on the result. I am waiting with patience for an account of it.

In this part of the world there is a spirit rising, which must, in time, produce great effects. I refer principally to what is now passing in Holland, Brabant, and France. This spirit originated in America; and, should it appear that it has there

[1] Alluding to the convention for forming the Constitution of the United States.

terminated in a state of society more favorable to peace, virtue, science, and liberty, and consequently to human happiness and dignity than has ever yet been known, infinite good will be done. Indeed, a general fermentation seems to be taking place through Europe. In consequence of the attention created by the American war, and the dissemination of writings explaining the nature and the end of civil government, the minds of men are becoming more enlightened, and the silly despots of the world are likely to be forced to respect human rights, and to take care not to govern too much, lest they should not govern at all.

You are acquainted with Mr. Paradise. He has sailed with his family for Virginia, where he is the proprietor of a good estate. His accomplishments as a scholar, and his excellent principles as a citizen, must make him useful there, and, I hope also, happy.[1]

During the course of last spring and summer I frequently feared that my health was declining. In order to recover it, I have spent near two months in sea-bathing and dissipation at East Bourne in Sussex; and I hope that I have gained some recruit of spirits for another winter. Be so good as to deliver my kind respects to Mr. Vaughan when you see him. I am much in his debt for two agreeable letters, and I hope soon to write to him. He is, I doubt not, useful where he is; but, as we have Mrs. Vaughan with us, we are in hopes he will not be long absent.

[1] This Mr. Paradise was the particular friend of Sir William Jones, and the same that visited Paris with him, as heretofore mentioned.

Last night the *Gazette* told us that Turkey has declared war against Russia. It has also told us that the King of Prussia, having entered Holland with his army and taken possession of Utrecht, and many other towns, has reinstated the Stadtholder in all his honors and powers; but, at the same time, our preparations for war by pressing sailors, filling up regiments, and creating admirals, show that our ministers expect that the French will interpose, and that they are determined to join the King of Prussia in supporting the Stadtholder against his constituents. With all the best wishes, I am most affectionately yours,

RICHARD PRICE.

MCCCCLXXV

TO MR. SMALL

PHILADELPHIA, 28 September, 1787.

DEAR SIR:—I received your kind letter of June 6, 1786, and I answered it, though long after the receipt. I do not perceive by your second favor of July, 1787, that my answer had then come to hand, but I hope it may since that time.

I have not lost any of the principles of public economy you once knew me possessed of, but to get the bad customs of a country changed, and new ones, though better, introduced, it is necessary first to remove the prejudices of the people, enlighten their ignorance, and to convince them that their interest will be promoted by the proposed changes, and this

is not the work of a day. Our legislators are all landowners, and they are not yet persuaded that all taxes are finally paid by the land. Besides, our country is so sparsely settled, the habitations, particularly in the back countries, being perhaps five or six miles distant from each other, that the time and labor of the collector in going from house to house, and being obliged to call often before he can recover the tax, amounts to more than the tax is worth, and therefore we have been forced into the mode of indirect taxes—that is, duties on importation of goods, and excises.

I have made no attempt to introduce the Form of Prayer here, which you and good Mrs. Baldwin do me the honor to approve. The things of *this* world take up too much of my time, of which indeed I have too little left, to undertake any thing like a reformation in matters of religion. When we can sow good seed we should, however, do it, and wait, when we can do no better, with patience, nature's time for their sprouting. Some lie many years in the ground, and at length certain favorable seasons or circumstances bring them forth with vigorous shoots and plentiful productions.

Had I been at home as you wished, soon after the peace, I might possibly have mitigated some of the severities against the royalists, believing, as I do, that fear and error rather than malice occasioned their desertion of their country's cause and the adoption of the king's. The public resentment against them is now so far abated, that none who ask leave to return are refused, and many of them

now live among us much at their ease. As to the restoration of confiscated estates, it is an operation that none of our politicians have as yet ventured to propose. They are a sort of people that love to fortify themselves in their prospects by precedent. Perhaps they wait to see your government restore the forfeited estates in Scotland to the Scotch, those in Ireland to the Irish, and those in England to the Welsh.

I am glad that the distressed exiles who remain with you have received, or are likely to receive, some compensation for their losses, for I commiserate their situation. It was clearly incumbent on the king to indemnify those he had seduced by his proclamations; but it seems not so clearly consistent with the wisdom of Parliament to resolve doing it for him. If some mad king should think fit, in a freak, to make war upon his subjects of Scotland, or upon those of England, by the help of Scotland and Ireland, as the Stuarts did, may he not encourage followers by the precedent of these parliamentary gratuities, and thus set his subjects to cutting one another's throats, first with the hope of sharing in confiscations, and then with that of compensation in case of disappointment? The council of brutes without a fable were aware of this. Lest that fable may perhaps not have fallen in your way, I enclose a copy of it.

Your commercial treaty with France seems to show a growing improvement in the sentiments of both nations in the economical science. All Europe might be a great deal happier with a little more

understanding. We in America have lately had a convention for framing a new Constitution. Enclosed I send you the result of their deliberations. Whether it will be generally acceptable and carried into execution is yet to be seen; but present appearances are in its favor.

I am always glad to hear from you, and of your welfare. I remember with pleasure the happy days we have spent together. Adieu, and believe me ever, my dear friend, yours most affectionately,

B. FRANKLIN.

MCCCCLXXVI

THOMAS JEFFERSON TO ——[1]

PHILADELPHIA, 11 October, 1787.

. . . Dr. Franklin has gained much credit within doors for his conduct, and was the person who proposed the general signature. He had prepared his address in writing. The exertion of speaking being too great, they allowed another to read it. The day previous he sent for the Pennsylvania delegates, and it was reported that he did it to acquaint them of his disapprobation of certain points, and

[1] Mr. Worthington C. Ford, of the State Department, writing of this letter, which was found among the Jefferson papers in the Department at Washington, says: "You will find this speech of Franklin in Madison's debates, but in somewhat different form. The idea of making the signing of the document unanimous was Gouverneur Morris', who gave it to B. F. to propose. This extract that I send adds the interesting information that Franklin first submitted his speech to his fellow delegates from Pennsylvania. Madison tells us that it was Dilson (of Pa.) who read the writing in the convention."—EDITOR.

the impossibility of agreeing to them. His views were different. He wanted to allay every possible scruple, and make their votes unanimous. Some of the sentiments of the address were as follows:

"We have been long together. Every possible objection has been combated. With so many different and contending interests it is impossible that any one can obtain every object of their wishes. We have met to make mutual sacrifices for the general good, and we have at last come fully to understand each other, and settle the terms. Delay is as unnecessary as the adoption is important. I confess it does not fully accord with my sentiments, but I have lived long enough to have often experienced that we ought not to rely too much on our own judgments. I have often found I was mistaken in my most favorite ideas. I have upon the present occasion given up, upon mature reflection, many points which at the beginning I thought myself immovably and decidedly in favor of. This renders me less tenacious of the remainder; there is a possibility of my being mistaken. The general principle which has presided over our deliberations now guides my sentiments. I repeat, I do materially object to certain points, and have already stated my objections; but I do declare that these objections shall never escape me without doors; as, upon the whole, I esteem the Constitution to be the best possible that could have been formed under present circumstances; and that it ought to go abroad with one united signature, and receive every support and countenance from us. I trust none will refuse to sign it; if they do, they will

put me in mind of the French girl who was always quarrelling and finding fault with every one around her, and told her sister that she thought it very extraordinary, but that really she had never found a person who was always in the right but herself."

MCCCCLXXVII

SPEECH IN THE CONVENTION, ON THE SUBJECT OF SALARIES

SIR:—It is with reluctance that I rise to express a disapprobation of any one article of the plan, for which we are so much obliged to the honorable gentleman who laid it before us. From its first reading I have borne a good-will to it and, in general, wished it success. In this particular of salaries to the executive branch, I happen to differ; and as my opinion may appear new and chimerical, it is only from a persuasion that it is right, and from a sense of duty that I hazard it. The committee will judge of my reasons when they have heard them, and their judgment may possibly change mine. I think I see inconveniences in the appointment of salaries; I see none in refusing them, but, on the contrary, great advantages.

Sir, there are two passions which have a powerful influence in the affairs of men. These are *ambition* and *avarice;* the love of power and the love of money. Separately, each of these has great force in prompting men to action; but when united in view of the same

object, they have in many minds the most violent effects. Place before the eyes of such men a post of *honor*, that shall at the same time be a place of *profit*, and they will move heaven and earth to obtain it. The vast number of such places it is that renders the British government so tempestuous. The struggles for them are the true source of all those factions which are perpetually dividing the nation, distracting its councils, hurrying it sometimes into fruitless and mischievous wars, and often compelling a submission to dishonorable terms of peace.

And of what kind are the men that will strive for this profitable preëminence through all the bustle of cabal, the heat of contention, the infinite mutual abuse of parties, tearing to pieces the best of characters? It will not be the wise and moderate, the lovers of peace and good order, the men fittest for the trust. It will be the bold and the violent, the men of strong passion and indefatigable activity in their selfish pursuits. These will thrust themselves into your government, and be your rulers. And these, too, will be mistaken in the expected happiness of their situation; for their vanquished competitors, of the same spirit, and from the same motives, will perpetually be endeavoring to distress their administration, thwart their measures, and render them odious to the people.

Besides these evils, sir, though we may set out in the beginning with moderate salaries, we shall find that such will not be of long continuance. Reasons will never be wanting for proposed augmentations;

and there will always be a party for giving more to the rulers, that the rulers may be able in return to give more to them. Hence, as all history informs us, there has been in every state and kingdom a constant kind of warfare between the governing and the governed; the one striving to obtain more for its support, and the other to pay less. And this has alone occasioned great convulsions, actual civil wars, ending either in dethroning of the princes or enslaving of the people. Generally, indeed, the ruling power carries its point, and we see the revenues of princes constantly increasing, and we see that they are never satisfied, but always in want of more. The more the people are discontented with the oppression of taxes, the greater need the prince has of money to distribute among his partisans, and pay the troops that are to suppress all resistance and enable him to plunder at pleasure. There is scarce a king in a hundred who would not, if he could, follow the example of Pharaoh,—get first all the people's money, then all their lands, and then make them and their children servants for ever. It will be said that we do not propose to establish kings. I know it. But there is a natural inclination in mankind to kingly government. It sometimes relieves them from aristocratic domination. They had rather have one tyrant than five hundred. It gives more of the appearance of equality among citizens; and that they like. I am apprehensive, therefore,—perhaps too apprehensive,—that the government of these States may in future times end in a monarchy. But this catastrophe, I think, may be long delayed, if in

our proposed system we do not sow the seeds of contention, faction, and tumult, by making our posts of honor places of profit. If we do, I fear that, though we employ at first a number and not a single person, the number will in time be set aside; it will only nourish the fœtus of a king (as the honorable gentleman from Virginia very aptly expressed it), and a king will the sooner be set over us.

It may be imagined by some that this is an Utopian idea, and that we can never find men to serve us in the executive department, without paying them well for their services. I conceive this to be a mistake. Some existing facts present themselves to me which incline me to a contrary opinion. The high sheriff of a county in England is an honorable office, but it is not a profitable one. It is rather expensive, and therefore not sought for. But yet it is executed, and well executed, and usually by some of the principal gentlemen of the county. In France the office of counsellor, or member of their judiciary parliaments, is more honorable. It is therefore purchased at a high price. There are indeed fees on the law proceedings which are divided among them, but these fees do not amount to more than three per cent. on the sum paid for the place. Therefore, as legal interest is there at five per cent., they in fact pay two per cent. for being allowed to do the judiciary business of the nation, which is at the same time entirely exempt from the burden of paying them any salaries for their services. I do not, however, mean to recommend this as an eligible mode for our judiciary department. I only bring the instance to show that

the pleasure of doing good and serving their country, and the respect such conduct entitles them to, are sufficient motives with some minds to give up a great portion of their time to the public without the mean inducement of pecuniary satisfaction.

Another instance is that of a respectable society, who have made the experiment, and practised it with success, now more than a hundred years. I mean the Quakers. It is an established rule with them that they are not to go to law, but in their controversies they must apply to their monthly, quarterly, and yearly meetings. Committees of these sit with patience to hear the parties, and spend much time in composing their differences. In doing this they are supported by a sense of duty and the respect paid to usefulness. It is honorable to be so employed, but it was never made profitable by salaries, fees, or perquisites. And indeed in all cases of public service the less profit the greater the honor.

To bring the matter nearer home, have we not seen the greatest and most important of our offices, that of general of our armies, executed for eight years together, without the smallest salary, by a patriot whom I will not now offend by any other praise, and this through fatigues and distresses in common with the other brave men, his military friends and companions, and the constant anxieties peculiar to his station? And shall we doubt finding three or four men in all the United States with public spirit enough to bear sitting in peaceful council for perhaps an equal term, merely to preside over our civil concerns, and see that our laws are duly

executed? Sir, I have a better opinion of our country. I think we shall never be without a sufficient number of wise and good men to undertake and execute well and faithfully the office in question.

Sir, the saving of the salaries that may at first be proposed is not an object with me. The subsequent mischiefs of proposing them are what I apprehend. And therefore it is that I move the amendment. If it is not seconded or accepted, I must be contented with the satisfaction of having delivered my opinion frankly, and done my duty.

MCCCCLXXVIII

SPEECH IN A COMMITTEE OF THE CONVENTION ON THE PROPORTION OF REPRESENTATION AND VOTES

MR. CHAIRMAN:—It has given me great pleasure to observe that till this point, *the proportion of representation*, came before us, our debates were carried on with great coolness and temper. If any thing of a contrary kind has, on this occasion, appeared, I hope it will not be repeated; for we are sent hither to *consult*, not to *contend*, with each other, and declarations of a fixed opinion, and of determined resolutions never to change it, neither enlighten nor convince us. Positiveness and warmth on one side naturally beget their like on the other, and tend to create and augment discord and division in a great concern, wherein harmony and union are extremely

necessary to give weight to our counsels, and render them effectual in promoting and securing the common good.

I must own that I was originally of opinion it would be better if every member of Congress, or our national council, were to consider himself rather as a representative of the whole than as an agent for the interests of a particular State, in which case the proportion of members for each State would be of less consequence, and it would not be very material whether they voted by States or individually. But as I find this is not to be expected, I now think the number of representatives should bear some proportion to the number of the represented, and that the decisions should be by the majority of members, not by the majority of States. This is objected to from an apprehension that the greater States would then swallow up the smaller. I do not at present clearly see what advantage the greater States could propose to themselves by swallowing the smaller, and therefore do not apprehend they would attempt it. I recollect that in the beginning of this century, when the union was proposed of the two kingdoms, England and Scotland, the Scotch patriots were full of fears that unless they had an equal number of representatives in Parliament they should be ruined by the superiority of the English. They finally agreed, however, that the different proportions of importance in the union of the two nations should be attended to, whereby they were to have only forty members in the House of Commons, and only sixteen of their peers were to sit in the House of Lords, a very great

inferiority of numbers. And yet, to this day, I do not recollect that any thing has been done in the Parliament of Great Britain to the prejudice of Scotland, and whoever looks over the lists of public officers, civil and military, of that nation will find, I believe, that the North Britons enjoy at least their full proportion of emolument.

But, sir, in the present mode of voting by States, it is equally in the power of the lesser States to swallow the greater, and this is mathematically demonstrable. Suppose, for example, that seven smaller States had each three members in the House, and the six larger to have, one with another, six members, and that upon a question two members of each smaller State should be in the affirmative, and one in the negative, they will make

Affirmatives	14	Negatives	7
And that all the large States should be unanimously in the negative, they would make		Negatives	36
		In all	43

It is then apparent that the 14 carry the question against the 43, and the minority overpowers the majority, contrary to the common practice of assemblies in all countries and ages.

The greater States, sir, are naturally as unwilling to have their property left in the disposition of the smaller, as the smaller are to leave theirs in the disposition of the greater. An honorable gentleman has, to avoid this difficulty, hinted a proposition of

equalizing the States. It appears to me an equitable one; and I should, for my own part, not be against such a measure if it might be found practicable. Formerly, indeed, when almost every province had a different constitution, some with greater, others with fewer privileges, it was of importance to the borderers, when their boundaries were contested, whether by running the division lines they were placed on one side or the other. At present, when such differences are done away, it is less material. The interest of a State is made up of the interests of its individual members. If they are not injured, the State is not injured. Small States are more easily, well, and happily governed, than large ones. If, therefore, in such an equal division it should be found necessary to diminish Pennsylvania, I should not be averse to the giving a part of it to New Jersey, and another to Delaware; but, as there would probably be considerable difficulties in adjusting such a division, and however equally made at first, it would be continually varying by the augmentation of inhabitants in some States and their more fixed proportion in others, and thence frequent occasion for new divisions, I beg leave to propose for the consideration of the committee another mode, which appears to me to be as equitable, more easily carried into practice, and more permanent in its nature.

Let the weakest State say what proportion of money or force it is able and willing to furnish for the general purposes of the Union.

Let all the others oblige themselves to furnish each an equal proportion.

The whole of these joint supplies to be absolutely in the disposition of Congress.

The Congress in this case to be composed of an equal number of delegates from each State;

And their decisions to be by the majority of individual members voting.

If these joint and equal supplies should, on particular occasions, not be sufficient, let Congress make requisitions on the richer and more powerful States for further aids, to be voluntarily afforded; so leaving each State the right of considering the necessity and utility of the aid desired, and of giving more or less as it should be found proper.

This mode is not new; it was formerly practised with success by the British government with respect to Ireland and the colonies. We sometimes gave even more than they expected or thought just to accept; and in the last war, carried on while we were united, they gave us back in five years a million sterling. We should probably have continued such voluntary contributions whenever the occasions appeared to require them for the common good of the empire. It was not till they chose to force us, and to deprive us of the merit and pleasure of voluntary contributions, that we refused and resisted. Those contributions, however, were to be disposed of at the pleasure of a government in which we had no representative. I am therefore persuaded that they will not be refused to one in which the representation shall be equal.

My learned colleague has already mentioned that the present mode of voting by States was submitted

to originally by Congress, under a conviction of its impropriety, inequality, and injustice. This appears in the words of their resolution. It is of September 6, 1774. The words are:

"Resolved, That, in determining questions in this Congress, each colony or province shall have one vote, the Congress not being possessed of, or at present able to procure, materials for ascertaining the importance of each colony."

MCCCCLXXIX

MOTION FOR PRAYERS IN THE CONVENTION

MR. PRESIDENT:—The small progress we have made, after four or five weeks' close attendance, and continual reasonings with each other, our different sentiments on almost every question, several of the last producing as many *noes* as *ayes*, is, methinks, a melancholy proof of the imperfection of the human understanding. We indeed seem to *feel* our own want of political wisdom, since we have been running all about in search of it. We have gone back to ancient history for models of government, and examined the different forms of those republics which, having been originally formed with the seeds of their own dissolution, now no longer exist, and we have viewed modern States all round Europe, but find none of their constitutions suitable to our circumstances.

In this situation of this assembly, groping, as it

were, in the dark, to find political truth, and scarce able to distinguish it when presented to us, how has it happened, sir, that we have not hitherto once thought of humbly applying to the Father of Lights to illuminate our understandings? In the beginning of the contest with Britain, when we were sensible of danger, we had daily prayers in this room for the Divine protection. Our prayers, sir, were heard, —and they were graciously answered. All of us who were engaged in the struggle must have observed frequent instances of a superintending Providence in our favor. To that kind Providence we owe this happy opportunity of consulting in peace on the means of establishing our future national felicity. And have we now forgotten that powerful Friend? or do we imagine we no longer need its assistance? I have lived, sir, a long time, and the longer I live the more convincing proofs I see of this truth, *that* God *governs in the affairs of men.* And if a sparrow cannot fall to the ground without his notice, is it probable that an empire can rise without his aid? We have been assured, sir, in the sacred writings that "except the Lord build the house, they labor in vain that build it." I firmly believe this, and I also believe that without his concurring aid we shall succeed in this political building no better than the builders of Babel; we shall be divided by our little, partial, local interests, our projects will be confounded, and we ourselves shall become a reproach and a by-word down to future ages. And, what is worse, mankind may hereafter, from this unfortunate instance, despair of establishing government by

human wisdom, and leave it to chance, war, ar
conquest.

I therefore beg leave to move—

That henceforth prayers, imploring the assistan
of Heaven and its blessing on our deliberations, b
held in this assembly every morning before we pr
ceed to business; and that one or more of the clerg
of this city be requested to officiate in that service

[1]To the original draft of this speech there is the following no
appended in the handwriting of Dr. Franklin:

"The convention, except three or four persons, thought prayer u
necessary."

The Doctor's motion was referred to a committee, who did not repo
for reasons which are doubtless correctly stated in the following lett
from ex-President Madison, who was a member of the convention,
Thos. S. Grimké:

"MONTPELIER, Jan. 6, 1834.

". . . You wish to be informed of the errors in your pamphl
alluded to in my last. The first related to the proposition of D
Franklin in favor of a religious service in the Federal Conventio
The proposition was rec'd and treated with the respect due to it; bu
the lapse of time which had preceded, with considerations growin
out of it, had the effect of limiting what was done to a reference of th
proposition to a highly respectable committee. This issue of it may b
traced in the printed *Journal*. The Quaker usage, never discontinue
in the State and the place where the Convention held its sitting
might not have been without an influence, as might also the discor
of religious opinions within the Convention, as well as among th
clergy of the spot. The error into which you had fallen may have bee
confirmed by a communication in the *National Intelligencer* some yea
ago, said to have been received through a respectable channel from
member of the Convention. That the communication was erroneou
is certain; whether from misapprehension or misrecollection, unce
tain."—*Writings of Madison*, Vol. IV., 337.

In the debate on Federal representation, in the Federal Convention
June 28, 1787, (from notes taken by Robert Yates, Chief Justice o
N. Y.): "Governor Franklin read some remarks acknowledging th
difficulties of the present subject. Neither ancient nor modern history
said Governor Franklin, can give us light. As a sparrow does not fa
without Divine permission, can we suppose that governments can b

MCCCCLXXX

DR. FRANKLIN'S SPEECH IN THE CONVENTION, AT THE CONCLUSION OF ITS DELIBERATIONS

MR. PRESIDENT:—I confess that I do not entirely approve of this Constitution at present; but, sir, I am not sure I shall never approve it; for, having lived long, I have experienced many instances of being obliged, by better information or fuller consideration, to change opinions even on important subjects, which I once thought right, but found to be otherwise. It is therefore that, the older I grow, the more apt I am to doubt my own judgment of others. Most men, indeed, as well as most sects in religion, think themselves in possession of all truth, and that wherever others differ from them, it is so far error. Steele, a Protestant, in a dedication, tells the Pope that the only difference between our two churches in their opinions of the certainty of their doctrine is, the Romish Church is *infallible*, and the Church of England is *never in the wrong*. But though many private persons think almost as highly of their own infallibility as that of their sect, few express it so

erected without his will? We shall, I am afraid, be disgraced through little party views. I move that we have prayers every morning.

"Adjourned till to-morrow morning."

The time which had elapsed without prayers in the convention, sufficiently explains the failure of Franklin's motion.

It will not be amiss here to recall the fact that the delegates chosen to form a State Constitution for Pennsylvania, "were required to believe in the Holy Trinity and the Divine inspiration of the Scriptures."

The Convention met at Philadelphia on the 15th of July, 1776, Franklin presiding. The Revd William White, afterwards Bishop of Pennsylvania, opened the convention by imploring the Divine blessing upon its labors.—EDITOR.

naturally as a certain French lady, who, in a little dispute with her sister, said: "But I meet with nobody but myself that is *always* in the right." "*Je ne trouve que moi qui aie toujours raison.*"

In these sentiments, sir, I agree to this Constitution, with all its faults—if they are such;—because I think a general government necessary for us, and there is no *form* of government but what may be a blessing to the people, if well administered; and I believe further, that this is likely to be well administered for a course of years, and can only end in despotism, as other forms have done before it, when the people shall become so corrupted as to need despotic government, being incapable of any other. I doubt, too, whether any other convention we can obtain, may be able to make a better Constitution; for, when you assemble a number of men, to have the advantage of their joint wisdom, you inevitably assemble with those men, all their prejudices, their passions, their errors of opinion, their local interests, and their selfish views. From such an assembly can a *perfect* production be expected? It therefore astonishes me, sir, to find this system approaching so near to perfection as it does; and I think it will astonish our enemies, who are waiting with confidence to hear that our counsels are confounded like those of the builders of Babel, and that our States are on the point of separation, only to meet hereafter for the purpose of cutting one another's throats. Thus I consent, sir, to this Constitution, because I expect no better, and because I am not sure that it is not the best. The opinions I have had of its

errors I sacrifice to the public good. I have never whispered a syllable of them abroad. Within these walls they were born, and here they shall die. If every one of us, in returning to our constituents, were to report the objections he has had to it, and endeavor to gain partisans in support of them, we might prevent its being generally received, and thereby lose all the salutary effects and great advantages resulting naturally in our favor among foreign nations, as well as among ourselves, from our real or apparent unanimity. Much of the strength and efficiency of any government in procuring and securing happiness to the people, depends on *opinion*, on the general opinion, of the goodness of that government, as well as of the wisdom and integrity of its governors. I hope, therefore, for our own sakes, as a part of the people, and for the sake of our posterity, that we shall act heartily and unanimously in recommending this Constitution, wherever our influence may extend, and turn our future thoughts and endeavors to the means of having it *well administered*.

On the whole, sir, I cannot help expressing a wish that every member of the convention who may still have objections to it would with me on this occasion doubt a little of his own infallibility, and, to make *manifest* our *unanimity*, put his name to this instrument.

[Then the motion was made for adding the last formula, viz.: "Done in convention by the unanimous consent," etc., which was agreed to and added accordingly.]

MCCCCLXXXI

A COMPARISON OF THE CONDUCT OF THE ANCIENT JEWS, AND OF THE ANTI-FEDERALISTS IN THE UNITED STATES OF AMERICA

A zealous advocate for the proposed Federal Constitution in a certain public assembly said that "the repugnance of a great part of mankind to good government was such that he believed that if an angel from heaven was to bring down a constitution formed there for our use, it would nevertheless meet with violent opposition." He was reproved for the supposed extravagance of the sentiment, and he did not justify it. Probably it might not have immediately occurred to him that the experiment had been tried, and that the event was recorded in the most faithful of all histories, the Holy Bible; otherwise he might, as it seems to me, have supported his opinion by that unexceptionable authority.

The Supreme Being had been pleased to nourish up a single family by continued acts of his attentive providence till it became a great people, and, having rescued them from bondage by many miracles, performed by his servant Moses, he personally delivered to that chosen servant, in presence of the whole nation, a constitution and code of laws for their observance, accompanied and sanctioned with promises of great rewards, and threats of severe punishments, as the consequence of their obedience or disobedience.

This constitution, though the Deity himself was to be at its head (and it is therefore called by political writers a *theocracy*), could not be carried into execu-

tion but by the means of his ministers. Aaron and his sons were therefore commissioned to be, with Moses, the first established ministry of the new government.

One would have thought that the appointment of men who had distinguished themselves in procuring the liberty of their nation, and had hazarded their lives in openly opposing the will of a powerful monarch, who would have retained that nation in slavery, might have been an appointment acceptable to a grateful people, and that a constitution framed for them by the Deity himself might, on that account, have been secure of a universal welcome reception. Yet there were in every one of the thirteen tribes some discontented, restless spirits, who were continually exciting them to reject the proposed new government, and this from various motives.

Many still retained an affection for Egypt, the land of their nativity, and these, whenever they felt any inconvenience or hardship, though the natural and unavoidable effect of the change of their situation, exclaimed against their leaders as the authors of their trouble, and were not only for returning into Egypt, but for stoning their deliverers.[1] Those inclined to idolatry were displeased that their golden calf was destroyed. Many of the chiefs thought the new constitution might be injurious to their particular interests, that the profitable places would be *engrossed by the families and friends of Moses and Aaron*, and others, equally well-born, excluded.[2] In

[1] Numbers, ch. xiv.

[2] Numbers, ch. xvi., verse 3. "And they gathered themselves together against Moses and against Aaron, and said unto them: 'Ye take too

Josephus and the Talmud we learn some particulars, not so fully narrated in the Scripture. We are there told "that Corah was ambitious of the priesthood, and offended that it was conferred on Aaron, and this, as he said, by the authority of Moses only, *without the consent of the people.* He accused Moses of having by various artifices fraudulently obtained the government, and deprived the people of their liberties, and of conspiring with Aaron to perpetuate the tyranny in their family. Thus, though Corah's real motive was the supplanting of Aaron, he persuaded the people that he meant only the public good, and they, moved by his insinuations, began to cry out: 'Let us maintain the common liberty of our *respective tribes;* we have freed ourselves from the slavery imposed upon us by the Egyptians, and shall we suffer ourselves to be made slaves by Moses? If we must have a master, it were better to return to Pharaoh, who at least fed us with bread and onions, than to serve this new tyrant, who by his operations has brought us into danger of famine.' Then they called in question the *reality of his conference* with God, and objected to the privacy of their meetings, and the preventing any of the people from being present at the colloquies, or even approaching the place, as grounds of great suspicion. They accused Moses also of *peculation*, as embezzling part of the golden spoons and the silver chargers that the princes had offered at the dedication of the altar,[1] and the

much upon you, seeing all the congregation are holy, every one of them; . . . wherefore, then, lift ye up yourselves above the congregation?'"

[1] Numbers, ch. vii.

offerings of gold by the common people,[1] as well as most of the poll-tax,[2] and Aaron they accused of pocketing much of the gold of which he pretended to have made a molten calf. Besides peculation, they charged Moses with *ambition*, to gratify which passion he had, they said, deceived the people by promising to bring them to a land flowing with milk and honey, instead of doing which he had brought them *from* such a land, and that he thought light of all this mischief, provided he could make himself an *absolute prince*.[3] That, to support the new dignity with splendor in his family the partial poll-tax already levied and given to Aaron [4] was to be followed by a general one,[5] which would probably be augmented from time to time, if he were suffered to go on promulgating new laws, on pretence of new occasional revelations of the divine will, till their whole fortunes were devoured by that aristocracy."

Moses denied the charge of peculation, and his accusers were destitute of proofs to support it, though *facts*, if real, are in their nature capable of proof. "I have not," said he (with holy confidence in the presence of God), "I have not taken from this people the value of an ass, nor done them any other injury." But his enemies had made the charge, and, with some success, among the populace; for no kind of

[1] Exodus, ch. xxxv., verse 22.

[2] Numbers, ch. iii., and Exodus, ch. xxx.

[3] Numbers, ch. xvi., verse 13. "Is it a small thing that thou hast brought us up out of a land that floweth with milk and honey, to kill us in the wilderness, except thou make thyself altogether a prince over us?"

[4] Numbers, ch. iii.

[5] Exodus, ch. xxx.

accusation is so readily made, or easily believed, by knaves, as the accusation of knavery.

In fine, no less than two hundred and fifty of the principal men, "famous in the congregation, men of renown," [1] heading and exciting the mob, worked them up to such a pitch of frenzy, that they called out: "Stone them, stone them, and thereby secure our liberties, and let us choose other captains that may lead us back into Egypt, in case we do not succeed in reducing the Canaanites!"

On the whole it appears that the Israelites were a people jealous of their newly acquired liberty, which jealousy was in itself no fault; but when they suffered it to be worked upon by artful men, pretending public good, with nothing really in view but private interest, they were led to oppose the establishment of the new constitution, whereby they brought upon themselves much inconvenience and misfortune. It further appears, from the same inestimable history, that when after many ages that constitution was become old and much abused, and an amendment of it was proposed, the populace, as they had accused Moses of the ambition of making himself a prince, and cried out: "Stone him, stone him"; so, excited by their high-priests and scribes, they exclaimed against the Messiah that he aimed at becoming the King of the Jews, and cried: "Crucify him, crucify him." From all which we may gather that popular opposition to a public measure is no proof of its impropriety, even though the opposition be excited and headed by men of distinction.

[1] Numbers, ch. xvi.

To conclude, I beg I may not be understood to infer that our general convention was divinely inspired when it formed the new Federal Constitution merely because that Constitution has been unreasonably and vehemently opposed; yet I must own I have so much faith in the general government of the world by Providence, that I can hardly conceive a transaction of such momentous importance to the welfare of millions now existing, and to exist in the posterity of a great nation, should be suffered to pass without being in some degree influenced, guided, and governed by that omnipotent, omnipresent, and beneficent Ruler, in whom all inferior spirits live, and move, and have their being.

B. FRANKLIN.

MCCCCLXXXII

TO PROFESSOR LAUDRIANI

PHILADELPHIA, 14 October, 1787.

I have received the excellent work *Upon the Utility of Electrical Conductors*, which you had the goodness to send me. I read it with great pleasure and beg you to receive my sincere thanks for it.

Upon my return to this country, I found the number of conductors much increased, many proofs of their efficacy in preserving buildings from lightning having demonstrated their utility. Among other instances my own house was one day attacked by lightning, which occasioned the neighbors to run in to give assistance, in case of its being on fire. But

no damage was done, and my family was only found a good deal frightened with the violence of the explosion.

Last year, my house being enlarged, the conductor was obliged to be taken down. I found, upon examination, that the pointed termination of copper, which was originally nine inches long, and about one third of an inch in diameter in its thickest part, had been almost entirely melted; and that its connection with the rod of iron below was very slight. Thus, in the course of time, this invention has proved of use to the author of it, and has added this personal advantage to the pleasure he before received from having been useful to others.

Mr. Rittenhouse, our astronomer, has informed me that having observed with his excellent telescope many conductors that are within the field of his view, he has remarked, in various instances, that the points were melted in like manner. There is no example of a house, provided with a perfect conductor, which has suffered any considerable damage; and even those which are without them have suffered little, since conductors have become common in this city.

B. FRANKLIN.

MCCCCLXXXIII

TO GAETANO FILANGIERI

PHILADELPHIA, 14 October, 1787.

DEAR SIR:—Believing it may be a matter of some curiosity to you to know what is doing in this part

of the world respecting legislation, I send you enclosed a copy of the new Federal Constitution proposed by a convention of the States.

We are now so remote from each other, that it is difficult to keep up a regular correspondence between us, and it is long since I had the pleasure of hearing from you. Some of the books you sent me did not come to hand, so that I want of

volume	3	9	to complete what I have,
"	4	8	
"	5	8	
"	6	8	
"	7	8	

and if any more volumes are published of your invaluable work, I should be glad to have eight of each sent to me. Mr. Grand, my banker at Paris, will pay the bookseller's bill.

With the highest esteem, I have the honor to be, sir, your most obedient servant,

B. FRANKLIN,
President of the State of Pennsylvania.

MCCCCLXXXIV

TO M. GRAND

PHILADELPHIA, 22 October, 1787.

DEAR FRIEND:—I received by the last pacquet your favor of August 6th, but the things you mention, sent by Madame Helvetius, did not come in that ship, and I wish you to enquire what became of them.

I send you enclosed the proposed new Federal Constitution for these States. I was engaged four months of the last summer in the convention that formed it. It is now sent by Congress to the several States for their confirmation. If it succeeds, I do not see why you might not in Europe carry the project of good Henry the Fourth into execution, by forming a federal union and one grand republic of all its different states and kingdoms, by means of a like convention, for we had many interests to reconcile.

I hope you and yours are well. I continue so, but am too full of business to write by this pacquet to my other friends. I am glad you liked my young Carolinian. I have recommended another gentleman of that State to your civilities, the Hon. Mr. Charles Pinckney, member of Congress, and one of the late convention. He is a man of fortune, and an excellent character; but you will not see him till next spring. I am ever, my dear friend, yours most affectionately,

B. FRANKLIN.

P. S.—I drew on you not long since for 10,000 livres.

MCCCCLXXXV

TO M. DE CHAUMONT

PHILADELPHIA, 22 October, 1787.

MY DEAR FRIEND:—Your very valuable son having desired of me a certificate of his good behavior here, which he thinks may be of some use to him in

an application for employment in Europe, I give it with great pleasure, as being equally conformable to my sentiments and to truth and justice. It is here enclosed.

I hope the whole amiable family continue well and happy. Be pleased to present my affectionate respects to Madame de Chaumont, and love to Madame Foucault, to ma femme, ma chere amie, et mon enfant. Ma femme me fera grand plaisir en m'envoyant les notes de la religieuse, mais pas autant qu'elle m'a souvent donné en les jouaiet. I am, my dear friend, yours sincerely,

B. FRANKLIN.

MCCCCLXXXVI

TO MRS. JANE MECOM

PHILADELPHIA, 4 November, 1787.

DEAR SISTER:—I received a kind letter from you lately, which gave me the pleasure of being informed that you were well. I am glad you have made the provision against the winter, which I mentioned to you. Your bill is honored. It is impossible for me always to guess what you may want, and I hope, therefore, that you will never be shy in letting me know wherein I can help to make your life more comfortable.

It was my intention to decline serving another year as President, that I might be at liberty to take a trip to Boston in the spring; but I submit to the unanimous voice of my country, which has again placed me in the chair. I have now been upwards of fifty

years employed in public offices. When I informed your good friend Dr. Cooper, that I was ordered to France, being then seventy years old, and observed that the public, having as it were eaten my flesh, seemed now resolved to pick my bones, he replied that he approved their taste, for that the nearer the bone the sweeter the meat. I must own that it is no small pleasure to me, and I suppose it will give my sister pleasure, that after such a long trial of me, I should be elected a third time by my fellow-citizens, without a dissenting vote but my own, to fill the most honorable post in their power to bestow. This universal and unbounded confidence of a whole people flatters my vanity much more than a peerage could do.

"Hung o'er with ribands and stuck round with strings,"

may give nominal, but not real honors.

This family are all well, as I also am, thanks to God. We join in best wishes for you and yours. And I am ever, my dear sister, your affectionate brother, B. FRANKLIN.

MCCCCLXXXVII

TO COUNT DE BUFFON

PHILADELPHIA, 19 November, 1787.

DEAR SIR:—I am honored by your letter, desiring to know by what means I am relieved in a disorder, with which you are so unfortunately afflicted. I have tried all the noted prescriptions for *diminishing* the stone without perceiving any good effect. But

observing temperance in eating, avoiding wine and cider, and using daily the dumb-bell, which exercises the upper part of the body without much moving the parts in contact with the stone, I think I have prevented its *increase*.

As the roughness of the stone lacerates a little the neck of the bladder, I find that, when the urine happens to be sharp, I have much pain in making water and frequent urgencies. For relief under these circumstances, I take, going to bed, the bigness of a pigeon's egg of jelly of blackberries. The receipt for making it is enclosed. While I continue to do this every night, I am generally easy the day following, making water pretty freely, and with long intervals. I wish most sincerely that this simple remedy may have the same happy effect with you. Perhaps currant jelly, or the jelly of apples or of raspberries, may be equally serviceable; for I suspect the virtue of the jelly may lie principally in the boiled sugar, which is in some degree candied by the boiling of the jelly. Wishing you for your own sake much more ease, and for the sake of mankind many more years, I remain with the greatest esteem and respect, dear sir, your most obedient and affectionate servant,

B. FRANKLIN.

MCCCCLXXXVIII

TO MRS. JANE MECOM

PHILADELPHIA, 11 December, 1787.

DEAR SISTER:—Since I wrote to you last your son Collas has been here from North Carolina, where he

kept a store, but it has not answered his expectations. He wanted to take up goods on credit here, but could not obtain any unless I would recommend it to our merchants to give it, which I could not do without making myself liable, and that I did not incline to do, having no opinion either of the honesty and punctuality of the people with whom he proposed to traffic, or of his skill and acuteness in merchandizing. I wrote this merely to apologize for any seeming unkindness on my part in not so promoting his views.

You always tell me that you live comfortably; but I sometimes suspect that you may be too unwilling to acquaint me with any of your difficulties from an apprehension of giving me pain. I wish you would let me know precisely your situation, that I may better proportion my assistance to your wants. Have you any money at interest, and what does it produce? Or do you do some kind of business for a living? If you have hazarded any of your stock in the above-mentioned trading project, I am afraid you will have but slender returns. Lest you should be straitened during the present winter, I send you on corner of this sheet a bill of exchange on our cousin, Tuthill Hubbart, for fifty dollars, which you can cut off and present to him for payment.

The barrel of flour I formerly mentioned to you as sent was not then sent, through the forgetfulness or neglect of the merchant who promised to send it. But I am told it is now gone, and I hope will arrive safe.

I received your late letter, with one from my dear

friend, Mrs. Greene, and one from [my] good niece, your daughter; all which I have at present mislaid, and therefore cannot now answer them particularly, but shall as soon as I find them.

My love to all our relations and friends, and believe me ever, your affectionate brother,

B. FRANKLIN.

MCCCCLXXXIX

TO ———

PHILADELPHIA, 15 December, 1787.

—— I hope the disorders in Brabant and Holland may be rectified without bloodshed. But I fear the impending war with the Turks, if not prevented by prudent negotiation, may in its consequences involve great part of Europe. I confide, however, that France and England will preserve their present peace with each other, notwithstanding some contrary appearances; for I think that they have both of them *too much sense* to go to war without an important cause, as well as *too little money* at present.

As to the projected conquest of Turkey, I apprehend that, if the Emperor and Empress would make some use of arithmetic, and calculate what annual revenues may be expected from the country they want, should they acquire it, and then offer the Grand Seignior a hundred times that annual revenue, to be paid down for an amicable purchase of it, it would be his interest to accept the offer, as well as theirs to make it, rather than a war for it should take

place; since a war, to acquire that territory and to retain it, will cost both parties much more, perhaps ten times more, than such sum of purchase money. But the hope of glory and the ambition of princes are not subject to arithmetical calculation. My best wishes attend you; being with great esteem, sir, etc.,

B. FRANKLIN.

MCCCCXC

TO THE GOVERNOR OF GEORGIA

PHILADELPHIA, 16 December, 1787.

SIR:—I received by Mr. Dromgoole the letter your Excellency did me the honor of writing to me the 2d of November past, and am much concerned to hear that a war between the State of Georgia and the Creek Indians was unavoidable.

During the course of a long life, in which I have made observations on public affairs, it has appeared to me that almost every war between the Indians and whites has been occasioned by some injustice of the latter towards the former. It is indeed extremely imprudent in us to quarrel with them for their lands, as they are generally willing to sell, and sell such good bargains; and a war with them is so mischievous to us in unsettling frequently a great part of our frontier, and reducing the inhabitants to poverty and distress, and is besides so expensive that it is much cheaper, as well as honester, to buy their lands than to take them by force.

Your State would, I imagine, be much more secure

from the mischiefs of Indian wars if you imitated the mode of settlement in the New England States, which was to grant their lands in townships of about six miles square to sixty families. These first chose a spot for their town, where they cleared a square of perhaps twenty acres, round which they fixed their houses, fifteen on a side, all fronting inwards to the square, so that they were all in sight of each other. In the middle of the square they erected a house for public worship, and a school, stockaded round as a fort for the reception and protection of their women and children in case of alarm. Behind each house was first a garden plot, then an orchard, and then a pasture for a cow or two, and behind all, outwards, their cornfield. Thus situated one house could not be attacked without its being seen and giving alarm to the rest, who were ready to run to its succor. This discouraged such attempts. Then they had the advantage of giving schooling to their children, securing their morals by the influence of religion, and improving each other by civil society and conversation. In our way of sparse and remote settlements, the people are without these advantages, and we are in danger of bringing up a set of savages of [our] own color.

MCCCCXCI

TO THE PRINTER OF THE "EVENING HERALD"[1]

SIR:—The British newswriters are very assiduous in their endeavors to blacken America. Should we

[1] The date of this piece is uncertain.

not be careful not to afford them any assistance by censures of one another, especially by censures not well founded?

I lately observed in one of your papers the conduct of the State of Massachusetts reflected on as being inconsistent and absurd, as well as wicked, for attempting to raise a tax by a stamp act, and for carrying on the slave trade.

The writer of those reflections might have considered that their principal objection to the stamp tax was its being imposed by a British Parliament, which had no right to tax them; for otherwise a tax by stamps is perhaps to be levied with as little inconvenience as any other that can be invented. Ireland has a stamp tax of its own; but should Britain pretend to impose such a tax on the Irish people, they would probably give a general opposition to it, and ought not for that to be charged with inconsistence.

One or two merchants in Boston, employing ships in the abominable African trade, may deservedly be condemned, though they do not bring their slaves home, but sell them in the West Indies. The State, as such, has never that I have heard of given encouragement to the diabolical commerce; and there have always been fewer slaves in the New England governments than in any other British colonies. National reflections are seldom just, and a whole people should not be decried for the crimes of a few individuals.

Your inserting this may make that brave people some amends, and will oblige one of your customers, who is,

A Pennsylvanian.

MCCCCXCII

TO MATHER BYLES [1]

PHILADELPHIA, 1 January, 1788.

DEAR OLD FRIEND:—I duly received your kind letter of May 14th. I was then busily engaged in attending our general convention, which, added to the ordinary current business of this government, took up so much of my time that I was obliged to postpone answering many letters of friends, which gave occasion for mislaying some of them, and among those was yours, only last week come again to hand. I think I never received what you mention respecting the University of Aberdeen; but the good-will I might show on that occasion was not of importance enough to deserve your repeating the acknowledgment. It was in me only paying a debt; for I remember with gratitude that I owe one of my first academical honors to your recommendation.

It gives me much pleasure to understand that my points have been of service in the protection of you and yours. I wish for your sake that electricity had really proved what it was at first supposed to be,—a cure for the palsy. It is, however, happy for you that when old age and that malady have concurred to enfeeble you and to disable you for writing, you have a daughter at hand to nurse you with filial attention and to be your secretary, of which I see she is very capable, by the elegance and correctness of her writing in the letter I am now answering. I, too

[1] A clergyman of Boston. For some biographical anecdotes respecting him, see Tudor's *Life of James Otis*, pp. 155–160.

have a daughter, who lives with me and is the comfort of my declining years, while my son is estranged from me by the part he took in the late war, and keeps aloof, residing in England, whose cause he *espoused;* whereby the old proverb is exemplified:

"My son is my son till he gets him a wife;
But my daughter's my daughter all the days of her life."

I remember you had a little collection of curiosities. Please to honor with a place in it the enclosed medal, which I got struck in Paris. The thought was much approved by the connoisseurs there, and the engraving well executed. My best wishes attend you, being ever your affectionate friend and humble servant,

B. FRANKLIN.

MCCCCXCIII

FROM ALEXANDER SMALL

2 January, 1788.

DEAR SIR:—On the receipt of your most agreeable favor I immediately informed the Baldwin family of your kind mention of them. I certainly never received the first letter you allude to, this being the only letter I have been favored with by you since your return to your free country. People here think very differently of your freedom. In general we are of opinion that your territory is too extensive for a popular government. Anarchy and despotism, they allege, must be the consequence. They there-

fore think it would be much wiser in you to adopt our limited government, as you have taken so many useful hints from us. You would naturally correct some errors that have crept into our Constitution.

When you threw us off, I did expect that we must have felt great diminution in our exports; but, what is singular, our people have been all constantly employed. We have some advantage over every nation in Europe. There is no nation in which the merchants have so great capitals, or are of so enterprising dispositions. We have fire and water everywhere, and ingenuity to turn them to the best advantage. We have the materials for great manufactories within ourselves; such as iron, steel, lead, copper, and tin. The whole island of Anglesea is found to be a mass of copper; and Mr. Wilkinson, who has the greatest foundry, I believe, in Europe, finds iron everywhere, and Mr. Wedgwood turns the clay, which does not turn to account with Mr. Wilkinson, into beautiful earthenware. Did he make his exhibition of his very noble set sent to the Empress of Russia before you left England?

You see that, so far as we can trace the descendants of attainted families, their honors are restored. The Irish Roman Catholic families are most of them either engrafted into foreign families, or are extinct. Those, whose lands were in the crown by modern forfeiture, have their estates restored to them. By a general act of grace, call back your banished people. Procure inhabitants, and they will in time, by their industry, create wealth. I think your present want of circulating cash may prove an advantage, as

it may give a check to the luxury you had import from us.

France may, by and by, exhibit a new scene policy in Europe. Wealth poured in upon her d ing the war promises to restrain the power of crown; and the king, as a reward for the assistai he gave you in renouncing your brethren, may ha his own wings clipped. You will probably m abundantly punish Spain; for I dare prophesy, tl in less than a century you will take possession Mexico. Thus the world goes round.

That you may live to see a good government tablished in your country, and happily enjoy wl of life remains to you, is the sincere prayer of y affectionate, etc.,

ALEXANDER SMALL

MCCCCXCIV

TO JOHN INGENHOUSZ

PHILADELPHIA, 11 February, 178

MY DEAR OLD FRIEND:—Your letter of Septeml 28, 1787, came to my hands about two weeks sin It found me very ill with a severe fit of the sto which followed a fall I had on the stone steps tl lead into my garden, whereby I was much bruis and my wrist sprained, so as to render me incapa of writing for several weeks. I therefore reques Mr. Vaughan to answer it for me, which he has d in his letter, that I enclose. I will, however, ad

little, as my hand is much strengthened, though I still write with pain.

All the books you have sent to me, and to the Philosophical Society here, have been received. They will be acknowledged in our next volume. In the meantime please to accept our hearty thanks. There are few books published in these times that contain so much new and useful knowledge as these you have written.

I lament with you the prospect of a horrid war, which is likely to engage so great a part of mankind. There is little good gained, and so much mischief done generally, by wars, that I wish the imprudence of undertaking them was more evident to princes; in which case I think they would be less frequent. If I were counsellor of the Empress of Russia, and found that she desired to possess some part of the dominions of the Grand Seignior, I should advise her to compute the annual taxes raised from that territory, and make him an offer of buying it, at the rate of paying for it at twenty years' purchase. And if I were his counsellor, I should advise him to take the money and cede the dominion of that territory. For I am of opinion that a war to obtain it would cost her more than that sum, and the event uncertain, and that the defence of it will cost him as much, and not having embraced the offer, his loss is double. But to make and accept such an offer, these potentates should be both of them reasonable creatures, and free from the ambition of glory, which perhaps is too much to be supposed.

I am glad that peace is likely to be established in

your native country with so little expense of blo
though it be done in a manner not agreeable tc
great part of the nation. If the French had ente
with the Prussians, and made it the seat of war, t
mischief would have been infinite.

I am truly sorry for the losses you have met wi
in your attempts to make profit by commerce in t
country. Jonathan Williams was in England a
Ireland many months before I left France. He h
since been in different parts of America, collecti
his debts, and now happens to be here. I ha
talked with him about your affairs. He tells me th
your adventure to Carolina sold well, and that t
produce was returned in indigo, which, if it had a
rived, would have rendered good profit; and thou
his correspondent had taken the prudent precauti
to insure in Charleston, the place being taken so
after, and the insurers ruined, nothing of value cou
be recovered, and that he is a loser of a hundr
guineas by the share he took in that unfortunate a
venture. I was mistaken when I informed you th
his brother had given him your certificates. It w
only authenticated copies of them. These he h
now given me. But I have written to John to gi
the originals to Mr. Charles Vaughan, now in Bosto
and to settle your account with that gentlema
paying to him any bills that may be in hand, whicl
make no doubt he will do.

Such certificates are low in value at present, b
we hope and believe they will succeed when our n
projected constitution of government is establishe
I lent to the old Congress three thousand pounds

the value of hard money, and took their certificates promising interest at six per cent., but I have received no interest for several years, and if I were now to sell the principal, I could not get more than a sixth part. You must not ascribe this to want of honesty in our government, but to want of ability, the war having exhausted all the faculties of the country. The public funds even of Great Britain sunk by the war the three per cents. from ninety-five to fifty-four. We had powerful armies of enemies in our country, ravaging, plundering, and destroying our towns and obstructing our agriculture, while their fleets ruined our commerce; and this for eight years together. I question whether the public credit even of your rich country would have supported itself under similar treatment. But we are recovering fast, and if peace continues, which God grant, we shall soon be in flourishing circumstances.

I did not think I could have written so much. I have done it, however, a little at a time. I can now only add that I remain, with unalterable esteem and affection, my dear friend, yours most sincerely,

B. FRANKLIN.

MCCCCXCV

TO ST. JOHN DE CRÈVECŒUR

PHILADELPHIA, 16 February, 1788.

DEAR SIR:—I received last summer and should have sooner acknowledged one of the most agreeable of presents, — your excellent work. Please

accept my cordial thanks for it, as well as for the honorable mention you have been pleased to make of me. The favorable view which you have taken of our country will, I am persuaded, have the good effect of deciding a certain number of distinguished Europeans to come and settle among us, an acquisition extremely advantageous to us. I thank you also for the trouble you have taken about the package sent me by Mr. Short.

Enclosed is a letter for your excellent and very admirable friend, Madame de Houdetot. I wrote it at the commencement of the last year and, supposing you to be still in France, I sent it in an envelope to your address. Your arrival soon after the departure of the ship made me fear that the letter had been a long time delayed if not lost. I am with great and sincere esteem,

B. FRANKLIN.

17 February.

P. S.—I had finished the above letter when I received yours of the 30th Jan., in which you ask my opinion about the steam-boat of Mr. Fitch. I cannot get about readily, and therefore have not seen it. I have no doubt that the force of steam, properly applied, may suffice to move a boat against the current in most rivers, yet when I consider the first expense of a machine such as a steam-engine, the necessity of always having a skilful machinist at a high salary to manage and repair it, and the room which it will occupy on the vessel, I will confess the fear I entertained lest the advantage would not be sufficient to bring the invention into common use; though the

opinion you sent me of Mr. Rittenhouse, who is an excellent judge, gives me a more favorable impression.[1]

MCCCCXCVI

TO M. LE VEILLARD

PHILADELPHIA, 17 February, 1788.

MY DEAR FRIEND:—I received your kind letter of June 23d, by Mr. Saugrain, and it is the last of yours that is come to my hands. As you have so much leisure and love writing, I cannot think you have been so long silent; you who are so good as to love me, and who know how much pleasure your letters always afford me. I therefore rather suspect you may probably have written something too freely concerning public affairs, and that your letters may be arrested in your post-office, and yourself lodged in the Bastile. You see I imagine any thing, however extravagant, rather than suppose, as your letters too often do, that my friends forget me.

I find Mr. Saugrain to answer well the good character you give of him, and shall with pleasure render him any services in my power. He is now gone down the Ohio, to reconnoitre that country.

I should have proceeded in the history[2] you men-

[1] This letter is re-translated from a French version, given in a recent work entitled *St. Jean de Crèvecœur: Sa Vie et Ses Ouvrages*, Paris, 1883.

[2] The memoirs of his own life, to the continuance of which all his friends, who knew the importance of such a history, wished him anxiously to apply.—W. T. F.

tion, if I could well have avoided accepting the chair of President for this third and last year, to which I was again elected by the *unanimous* voice of the Council and General Assembly in November. If I live to see this year expire, I may enjoy some leisure, which I promise you to employ in the work you do me the honor to urge so earnestly.

I sent you with my last a copy of the new Constitution proposed for the United States by the late general convention. I sent one also to our excellent friend the Duke de la Rochefoucauld. I attended the business of the convention faithfully for four months. Enclosed you have the last speech I made in it.[1] Six States have already adopted the Constitution, and there is now little doubt of its being accepted by a sufficient number to carry it into execution, if not immediately by the whole. It has, however, met with great opposition in some States, for we are at present a nation of politicians. And though there is a general dread of giving too much power to our *governors*, I think we are more in danger from too little obedience in the *governed*.

We shall, as you suppose, have imposts on trade and custom-houses, not because other nations have them, but because we cannot at present do without them. We want to discharge our public debt occasioned by the late war. Direct taxes are not so easily levied on the scantily settled inhabitants of our wide-extended country; and what is paid in the price of merchandise is less felt by the consumer, and less the cause of complaint. When we are out of

[1] See *supra*, p. 379.

debt we may leave our trade free, for our ordinary charges of government will not be great.

Where there is a free government, and the people make their own laws by their representatives, I see no injustice in their obliging one another to take their own paper money. It is no more so than compelling a man by law to take his own note. But it is unjust to pay strangers with such money against their will. The making of paper money with such a sanction is, however, a folly, since, although you may by law oblige a citizen to take it for his goods, you cannot fix his prices; and his liberty of rating them as he pleases, which is the same thing as settling what value he pleases on your money, defeats your sanction.

I have been concerned to hear of the troubles in the internal government of the country I love,[1] and hope some good may come out of them, and that they may end without mischief.

In your letter to my grandson you asked some questions that had an appearance as if you meditated a visit to us. Nothing in this world would give me greater pleasure than to receive and embrace here the whole family, but it is too great a happiness to be expected. This family all join with me in best wishes of every felicity to you and yours, and I remain with unalterable and great esteem and affection, my dear friend, yours most sincerely,

B. FRANKLIN.

[1] France.

MCCCCXCVII

FROM WILLIAM HERSCHEL

SLOUGH, NEAR WINDSOR, 18 February, 1788.

SIR:—Give me leave to express my thanks to you as president in particular, and to all the vice-presidents, secretaries, and members in general, for the honor conferred on me by electing me a member of the American Philosophical Society held at Philadelphia. As a small token of my gratitude I send hereby a catalogue of one thousand new nebulæ and clusters of stars, and at the same time communicate to the Society that on the 11th of January, 1787, I discovered two satellites revolving round the Georgian planet; the first in about eight days and three quarters, and the second in about twelve and a half. The times of the revolution, and other circumstances concerning the orbits of these satellites, will be determined with greater accuracy hereafter. I detected them in consequence of an improvement in my twenty-feet reflector, whereby I have gained much light. An account of this improvement is mentioned in a note at the end of the catalogue of nebulæ.

The acquaintance, sir, I have long had with your literary character, makes me seize this opportunity with pleasure of expressing my esteem for you, and of begging at the same time that you will render my respects acceptable to all the members of the Society.

I have the honor to be, sir, your most obedient, humble servant,

WILLIAM HERSCHEL.

MCCCCXCVIII

FROM NEVIL MASKELYNE

GREENWICH, 3 March, 1788.

SIR:—On the 2d of May last year I received from you a paper concerning the variation of the compass by Mr. Churchman of Philadelphia, of which you desired my opinion. As he at the same time sent another similar paper to the Board of Longitude, of which I am a member, I did not think I could properly send you my private opinion till that of the Board had been taken. I have now the pleasure to acknowledge the favor of your letter, and to acquaint you that the Board of Longitude considered it last Saturday, and agreed it was not new, the idea of accounting for the variation having been published in the *Berlin Memoirs* for 1757, from two poles not diametrically opposite, by the learned Mr. Leonard Euler, in a mathematical and masterly manner. The observations of variation at sea, owing to the ironwork in the ship, and arms on board, are liable to great uncertainty, so that differences have been found of six degrees in the English Channel. There will be a great difference often, according as the ship is put on one or the other tack, owing to the soft iron on board becoming temporary magnets from the effect of the earth as a great magnet. Magnetic rocks at sea will disturb the magnet, and severe cold in northern regions seems occasionally to render it torpid, though it recovers itself again.

On all these accounts, and some others not less important, the variation of the compass cannot be

considered as a general method of finding the longitude at sea, and is scarce of any use that way, now we have so much better methods of attaining the end. Mr. Churchman's supposition of a gradual change of the magnetic poles, without offering any probable physical hypothesis to account for it, must be considered as a mere hypothesis. You, sir, who are so well able to judge of philosophical matters and physical causes, will have little doubt to join in opinion with the late Dr. Halley, as I do, that the gradual change of the magnetic poles cannot be probably accounted for from any gradual changes of the quantity, metallic state, magnetism, or translation of the iron and iron-ore in the bowels, or diffused through the surface, of the earth. Dr. Halley's hypothesis of four poles, two belonging to an outer shell, and two to an inner nucleus, movable about the axis with a less velocity of rotation than the outer shell, is very ingenious and well calculated to get over this difficulty.

Observations both of the variation and dip of the needle, made throughout your continent, would be of use to throw light on this matter. Mr. Churchman might have been well satisfied with the judgments of such able men and good philosophers as Mr. Ewing and Mr. Rittenhouse. Mr. Dillwhynn sent me another of his proposals, with the disputes between him and the principal mathematicians with you, for the Royal Society, which I forwarded there.

I hope you receive (I mean your Philosophical Society) my Greenwich observations, now published up to the end of 1786, and published annually. They

are ordered to you by the Council. I shall be gratified by the continuance of the present of your *Memoirs*, if thought proper, and am sensible of the honor of being a member. Your future correspondence will do honor to us. Your most humble servant and old friend,

N. MASKELYNE.

MCCCCXCIX

TO THE EDITORS OF THE "PENNSYLVANIA GAZETTE"

MESSRS. HALL AND SELLERS:—I lately heard a remark, that on examination of the *Pennsylvania Gazette* for fifty years, from its commencement, it appeared that during that long period scarce one libellous piece had ever appeared in it. This generally chaste conduct of your paper is much to its reputation; for it has long been the opinion of sober, judicious people, that nothing is more likely to endanger the liberty of the press than the abuse of that liberty by employing it in personal accusation, detraction, and calumny. The excesses some of our papers have been guilty of in this particular have set this State in a bad light abroad, as appears by the following letter, which I wish you to publish, not merely to show your own disapprobation of the practice, but as a caution to others of the profession throughout the United States; for I have seen a European newspaper, in which the editor, who had been charged with frequently calumniating the Americans, justifies himself by saying, "that he had

published nothing disgraceful to us which he had not taken from our own printed papers." I am, etc.,

A. B.

"NEW YORK, March 30, 1788.

"DEAR FRIEND:—My gout has again left me after five months' painful confinement. It afforded me, however, the leisure to read, or hear read, all the packets of your newspapers which you so kindly sent for my amusement.

"Mrs. W. has partaken of it; she likes to read the advertisements; but she remarks some kind of inconsistency in the announcing so many diversions for almost every evening of the week, and such quantities to be sold of expensive superfluities, fineries, and luxuries *just imported*, in a country that at the same time fills its papers with complaints of *hard times* and want of money. I tell her that such complaints are common to all times and all countries, and were made even in Solomon's time, when, as we are told, silver was as plenty in Jerusalem as the stones in the street, and yet even then there were people that grumbled, so as to incur this censure from that knowing prince. '*Say not thou that the former times were better than these, for thou dost not inquire rightly concerning that matter.*'

"But the inconsistency that strikes me the most is that between the name of your city, Philadelphia (*brotherly love*), and the spirit of rancor, malice, and *hatred* that breathes in its newspapers. For I learn from those papers that your State is divided into parties, that each party ascribes all the public opera-

tions of the other to vicious motives; that they do not even suspect one another of the smallest degree of honesty; that the anti-federalists are such merely from the fear of losing power, places, or emoluments, which they have in possession or in expectation; that the federalists are a set of *conspirators*, who aim at establishing a tyranny over the persons and property of their countrymen, and to live in splendor on the plunder of the people. I learn, too, that your justices of the peace, though chosen by their neighbors, make a villainous trade of their office, and promote discord to augment fees, and fleece their electors; and that this would not be mended by placing the choice in the Executive Council, who with interested or party views are continually making as improper appointments; witness a '*petty fiddler, sycophant, and scoundrel*,' appointed Judge of the Admiralty; '*an old woman and fomenter of sedition*' to be another of the Judges, and '*a Jeffries*' Chief Justice, etc., etc.; with '*two harpies*' the Comptroller and Naval Officers, to prey upon the merchants and deprive them of their property by force of arms, etc.

"I am informed also by these papers, that your General Assembly, though the annual choice of the people, shows no regard to their rights, but from sinister views or ignorance makes laws in direct violation of the Constitution, to divest the inhabitants of their property and give it to strangers and intruders; and that the Council, either fearing the resentment of their constituents, or plotting to enslave them, had projected to disarm them, and given orders for that

purpose; and finally, that your President, the unanimous joint choice of the Council and Assembly, is '*an old rogue*,' who gave his assent to the Federal Constitution merely to avoid refunding money he had purloined from the United States.

"There is, indeed, a good deal of manifest *inconsistency* in all this, and yet a stranger, seeing in your own prints, though he does not believe it all, may probably believe enough of it to conclude that Pennsylvania is peopled by a set of the most unprincipled, wicked, rascally, and quarrelsome scoundrels upon the face of the globe. I have sometimes, indeed, suspected that those papers are the manufacture of foreign enemies among you, who write with a view of disgracing your country, and making you appear contemptible and detestable all the world over; but then I wonder at the indiscretion of your printers in publishing such writings! There is, however, one of your *inconsistencies* that consoles me a little, which is, that though, *living*, you give one another the characters of devils; *dead*, you are all angels! It is delightful, when any of you die, to read what good husbands, good fathers, good friends, good citizens, and good Christians you were, concluding with a scrap of poetry that places you, with certainty, every one in heaven. So that I think Pennsylvania a good country *to die in*, though a very bad one to live in."

MD

TO MRS. COLAS

PHILADELPHIA, 12 April, 1788.

LOVING COUSIN:—I received some time since a kind letter from you, which gave me pleasure. As to my going to Boston, which you seem to wish, and I also, I begin to doubt its being ever accomplished. Such a journey at my age would be attended with much inconvenience and hardship, and might with the malady I have be dangerous. At present I am in my place, have all my conveniences and comforts about me, and it seems most prudent for me to stay where I am and enjoy them, without going abroad to give myself and friends a good deal of trouble, which cannot be compensated by our pleasure of meeting, since that will be balanced by the pain of parting.

You need not have made any apology for introducing Thayer to me. He gave me but little trouble, and I had the pleasure of doing him some good; though he is rather an insignificant body, and has turned to the Papists, who do not much value the acquisition, and I suppose we may easily bear the loss. My best wishes attend you, being ever your affectionate uncle, B. FRANKLIN.

MDI

TO MADAME BRILLON [1]

PHILADELPHIA, 19 April, 1788.

MY DEAR, DEAR FRIEND:—I received by the last pacquet your kind letter dated in October last. I

[1] This is the lady to whom Franklin wrote his *Story of the Whistle*.

am glad to hear that you continue well, with what is left of the amiable family, in whose sweet society I passed so many happy evenings while I lived in Passy. I sympathize with you in all your losses and afflictions, and hope the rest of your life will be as tranquil and free from trouble as it had been for some years before we parted.

You have given me pleasure by informing me of the welfare and present agreeable circumstances of yourself and children; and I am persuaded that your friendship for me will render a similar account of my situation pleasing to you. I am in a country where I have the happiness of being universally respected and beloved; of which three successive annual elections to the chief magistracy, in which elections the representatives of the people in Assembly and the Supreme Council joined and were unanimous, is the strongest proof; this is a place of profit as well as of honor; and my friends cheerfully assist in making the business as easy to me as possible. I live in a good house which I built twenty-five years ago, contrived to my mind, and made still more convenient by an addition since my return. A dutiful and affectionate daughter, with her husband and six children compose my family. The children are all promising, and even the youngest, who is but four years old, contributes to my amusement. The eldest, Benjamin, you may remember. He has finished his studies at our university, and is preparing to enter into business as a printer, the original occupation of his grandfather. Temple, who was likewise with me in France, is settled about six leagues

from me on his plantation, which contains about six hundred acres; but when in town he lives with me. My rents and incomes are amply sufficient for all my present occasions; and if no unexpected misfortunes happen during the little time I have to live, I shall leave a handsome estate to be divided among my relatives. As to my health, it continues the same, or rather better than when I left Passy; but being now in my eighty-third year, I do not expect to continue much longer a sojourner in this world, and begin to promise myself much gratification of my curiosity in soon visiting some other. Wherever I may hereafter travel, be assured, my dear friend, that if . . . [*imperfect*].

MDII

TO M. LE VEILLARD

22 April, 1788.

My Dear Friend:—I received but a few days since, your favor of November 30, 1787, in which you continue to urge me to finish the Memoirs. My three years of service will expire in October, when a new President must be chosen; and I had the project of retiring then to my grandson's estate in New Jersey, where I might be free from interruption of visits, in order to complete the work for your satisfaction; for in this city my time is so cut to pieces by friends and strangers, that I have sometimes envied the prisoners in Bastile. But considering now the little remnant of life I have left, the accidents

that may happen between this and October, and your earnest desire, I have come to the resolution to proceed in that work to-morrow, and continue it daily till finished, which, if my health permits, may be in the course of the ensuing summer. As it goes on, I will have a copy made for you, and you may expect to receive a part by the next packet.

It is very possible, as you suppose, that all the articles of the proposed new government will not remain unchanged, after the first meeting of the Congress. I am of opinion, with you, that the *two* chambers were not necessary, and I disliked some other articles that are in, and wished for some that are not in the proposed plan. I nevertheless hope it may be adopted, though I shall have nothing to do with the execution of it, being determined to quit all public business with my present employment.[1] At eighty-three one certainly has a right to *ambition* repose.

We are not ignorant that the duties paid at the custom-house on the importation of foreign goods are finally reimbursed by the consumer, but we impose them as the easiest way of levying a tax from those consumers. If our new country was as closely inhabited as your old one, we might without much difficulty collect a landtax that would be sufficient for all purposes; but where farms are at five or six miles' distance from each other, as they are in a great part of our country, the going of the collectors from house to house to demand the taxes, and being obliged to call more than once for the same tax,

[1] President of the State of Pennsylvania.

makes the trouble of collecting in many cases exceed the value of the sum collected. Things that are, practicable in one country are not always so in another, where circumstances differ. Our duties are, however, generally so small as to give little temptation to smuggling. Believe me ever, my dear friend, yours most affectionately,

B. FRANKLIN.

MDIII

TO MADAME HELVETIUS

PHILADELPHIA, 23 April, 1788.

I received and read with the greatest pleasure, my dear friend, the kind letter you were so good as to write to me with your own hand, c'est toute à fait charmante. It rejoiced me to hear that you continued well with your chères petites étoilles, and that you still have your friends about you. I often think of the happiness I so long enjoyed in the sweet society of you and them at Auteuil. When we meet in Paradise, as I trust we shall, the pleasures of that place will be augmented by our recollection of all the circumstances of our acquaintance here below.

You have made my daughter very happy by the things you sent her. They are much admired. I continue as well as I have been for some years past, and if I live six months longer, I may hope for some leisure, so as to be able to converse more frequently by letter with my absent friends, having absolutely determined to engage no more in any public business after my three years' service as President shall expire.

M. Paradise, the gentleman who will have
honor of delivering this letter, intends to reside sc
time in Paris, and acquaints me that he has orde
some cardinals to be frequently sent to him from
estate in Virginia, and that if any of them get
Paris alive you shall be sure to have one. He l
the pleasure of seeing you formerly with me at Pas
Temple is at his *terre*, busy with his agricultı
Benjamin presents his respects. Our best wis
attend you and yours most devoutly. I am exce
ingly obliged to the good abbés and M. Cabanis
their letters. The *Guichats* and *Nouvelle Cométol*
entertained my friends and me very much. I can
write to them now, but must say with the debto
the Gospel: *Have patience with me and I will*
you all. Adieu, my very dear friend, and believe
ever, yours most affectionately,

B. FRANKLIN

MDIV

TO JAMES BOWDOIN

READ AT A MEETING OF THE AMERICAN PHILOSOPHICAL SOCIETY, JA
ARY 15, 1790

PHILADELPHIA, 31 May, 178

DEAR SIR:—I received your favors by Mes
Gore, Hilliard, and Lee, with whose conversatio
was much pleased, and wished for more of it; l
their stay with us was too short. Whenever y
recommend any of your friends to me you oblige
I want to know whether your Philosophical

ciety [1] received the second volume of our *Transactions*. I sent it, but never heard of its arriving. If it miscarried I will send another. Has your Society among its books the French work *Sur les Arts et les Métiers?* It is voluminous, well executed, and may be useful in our country. I have bequeathed it them in my will; but if they have it already I will substitute something else.

Our ancient correspondence used to have something philosophical in it. As you are now more free from public cares, and I expect to be so in a few months, why may we not resume that kind of correspondence? Our much regretted friend Winthrop once made me the compliment that I was good at starting game for philosophers; let me try if I can start a little for you.

Has the question, How came the earth by its magnetism? ever been considered?

Is it likely that *iron ore* immediately existed when this globe was first formed; or may it not rather be supposed a gradual production of time?

If the earth is at present magnetical in virtue of the masses of iron ore contained in it, might not some ages pass before it had magnetic polarity?

Since iron ore may exist without that polarity, and by being placed in certain circumstances may obtain it from an external cause, is it not possible that the earth received its magnetism from some such cause?

In short, may not a magnetic power exist throughout our system, perhaps through all systems, so that if men could make a voyage in the starry regions, a

[1] The American Academy of Arts and Sciences.—Editor.

compass might be of use? And may not such universal magnetism, with its uniform direction, be serviceable in keeping the diurnal revolution of a planet more steady to the same axis?

Lastly, as the poles of magnets may be changed by the presence of stronger magnets, might not, in ancient times, the near passing of some large comet, of greater magnetic power than this globe of ours, have been a means of changing its poles, and thereby wrecking and deranging its surface, placing in different regions the effect of centrifugal force, so as to raise the waters of the sea in some, while they were depressed in others?

Let me add another question or two, not relating indeed to magnetism, but, however, to the theory of the earth.

Is not the finding of great quantities of shells and bones of animals (natural to hot climates) in the cold ones of our present world, some proof that its poles have been changed? Is not the supposition, that the poles have been changed, the easiest way of accounting for the deluge, by getting rid of the old difficulty how to dispose of its waters after it was over? Since, if the poles were again to be changed, and placed in the present equator, the sea would fall there about fifteen miles in height, and rise as much in the present polar regions; and the effect would be proportionable, if the new poles were placed anywhere between the present and the equator.

Does not the apparent wreck of the surface of this globe, thrown up into long ridges of mountains, with strata in various positions, make it probable that its

internal mass is a fluid; but a fluid so dense as to float the heaviest of our substances? Do we know the limit of condensation air is capable of? Supposing it to grow denser *within* the surface, in the same proportion nearly as it does *without*, at what depth may it be equal in density with gold?

Can we easily conceive how the strata of the earth could have been so deranged, if it had not been a mere shell supported by a heavier fluid? Would not such a supposed internal fluid globe be immediately sensible of a change in the situation of the earth's axis, alter its form, and thereby burst the shell, and throw up parts of it above the rest? As, if we would alter the position of the fluid contained in the shell of an egg, and place its longest diameter where the shortest now is, the shell must break; but would be much harder to break, if the whole internal substance were as solid and hard as the shell.

Might not a wave, by any means raised in this supposed internal ocean of extremely dense fluid, raise in some degree, as it passes, the present shell of incumbent earth, and break it in some places, as in earthquakes? And may not the progress of such wave, and the disorders it occasions among the solids of the shell, account for the rumbling sound being first heard at a distance, augmenting as it approaches, and gradually dying away as it proceeds? A circumstance observed by the inhabitants of South America in their last great earthquake; that noise coming from a place some degrees north of Lima, and being traced by inquiry quite down to Buenos Ayres, proceeded regularly from north to south at

the rate of —— leagues per minute, as I was informed by a very ingenious Peruvian whom I met with at Paris.

B. FRANKLIN.

MDV

DESCRIPTION OF THE PROCESS TO BE OBSERVED IN MAKING LARGE SHEETS OF PAPER IN THE CHINESE MANNER, WITH ONE SMOOTH SURFACE

In Europe, to have a large surface of paper connected together, and smooth on one side, the following operations are performed.

1. A number of small sheets are to be made separately.

2. These are to be couched, one by one, between blankets.

3. When a heap is formed it must be put under a strong press, to force out the water.

4. Then the blankets are to be taken away, one by one, and the sheets hung up to dry.

5. When dry, they are to be again pressed, or, if to be sized, they must be dipped into size made of warm water, in which glue and alum are dissolved.

6. They must then be pressed again to force out the superfluous size.

7. They must then be hung up a second time to dry, which, if the air happens to be damp, requires some days.

8. They must then be taken down, laid together, and again pressed.

9. They must be pasted together at their edges.

10. The whole must be glazed by labor, with a flint.

In China, if they would make sheets, suppose of four and a half ells long and one and a half ells wide, they have two large vats, each five ells long and two ells wide, made of brick, lined with a plaster that holds water. In these the stuff is mixed ready to work.

Between these vats is built a kiln or stove, with two inclining sides; each side something larger than the sheet of paper; they are covered with a fine stucco that takes a polish, and are so contrived as to be well heated by a small fire circulating in the walls.

The mould is made with thin but deep sides, that it may be both light and stiff; it is suspended at each end with cords that pass over pulleys fastened to the ceiling, their ends connected with a counterpoise nearly equal the weight of the mould.

Two men, one at each end of the mould, lifting it out of the water by the help of the counterpoise, turn it and apply it with the stuff to the smooth surface of the stove, against which they press it, to force out great part of the water through the wires. The heat of the wall soon evaporates the rest, and a boy takes off the dried sheet by rolling it up. The side next the stove receives the even polish of the stucco, and is thereby better fitted to receive the impression of fine prints. If a degree of sizing is required, a decoction of rice is mixed with the stuff in the vat.

Thus the great sheet is obtained, smooth and sized, and a number of the European operations saved.

As the stove has two polished sides, and there are two vats, the same operation is at the same time performed by two other men at the other vat; and one fire serves.

MDVI

TO JOHN LATHROP [1]

PHILADELPHIA, 31 May, 1788.

REVEREND SIR:—I received your obliging favor of the 6th instant by Mr. Hilliard, with whose conversation I was much pleased, and would have been glad to have had more of it, if he would have spared it to me; but the short time of his stay has prevented. You need make no apology for introducing any of your friends to me. I consider it as doing me honor, as well as giving me pleasure.

I thank you for the pamphlet of the Humane Society. In return please to accept one of the same kind, which was published while I resided in France. If your Society has not hitherto seen it, it may possibly afford them useful hints.

It would certainly, as you observe, be a very great pleasure to me, if I could once again visit my native town, and walk over the grounds I used to frequent when a boy, and where I enjoyed many of the innocent pleasures of youth, which would be so brought to my remembrance, and where I might find some of my old acquaintance to converse with. But when I consider how well I am situated here, with every

[1] An eminent clergyman of Boston, and for many years a neighbor and valuable friend of Mrs. Mecom, the sister of Dr. Franklin.

thing about me that I can call either necessary or convenient; the fatigues and bad accommodations to be met with and suffered in a land journey, and the unpleasantness of sea voyages to one who, although he has crossed the Atlantic eight times, and made many smaller trips, does not recollect his having ever been at sea without taking a firm resolution never to go to sea again; and that, if I were arrived in Boston, I should see but little of it, as I could neither bear walking nor riding in a carriage over its pebbled streets; and, above all, that I should find very few indeed of my old friends living, it being now sixty-five years since I left it to settle here;—all this considered, I say, it seems probable, though not certain, that I shall hardly again visit that beloved place. But I enjoy the company and conversation of its inhabitants, when any of them are so good as to visit me; for, besides their general good-sense, which I value, the Boston manner, turn of phrase, and even tone of voice, and accent in pronunciation, all please, and seem to refresh and revive me.

I have been long impressed with the same sentiments you so well express, of the growing felicity of mankind, from the improvements in philosophy, morals, politics, and even the conveniences of common living, and the invention and acquisition of new and useful utensils and instruments; so that I have sometimes almost wished it had been my destiny to be born two or three centuries hence. For invention and improvement are prolific, and beget more of their kind. The present progress is rapid. Many of great importance, now unthought of, will, before that

period, be produced; and then I might not only enjoy their advantages, but have my curiosity gratified in knowing what they are to be. I see a little absurdity in what I have just written, but it is to a friend, who will wink and let it pass, while I mention one reason more for such a wish, which is, that, if the art of physic shall be improved in proportion to other arts, we may then be able to avoid diseases, and live as long as the patriarchs in Genesis; to which, I suppose, we should have little objection.

I am glad my dear sister has so good and kind a neighbor. I sometimes suspect she may be backward in acquainting me with circumstances in which I might be more useful to her. If any such occur to your observation, your mentioning them to me will be a favor I shall be thankful for. With great esteem, I have the honor to be, reverend sir, etc.,

B. FRANKLIN.

MDVII

TO M. LE VEILLARD

PHILADELPHIA, 8 June, 1788.

MY DEAR FRIEND:—I received a few days ago your kind letter of the 3d of January. The *arrêt* in favor of the *non-catholiques* gives pleasure here, not only from its present advantages, but as it is a good step towards general toleration, and to the abolishing in time all party spirit among Christians, and the mischiefs that have so long attended it. Thank God, the world is growing wiser and wiser; and as

by degrees men are convinced of the folly of wars for religion, for dominion, or for commerce, they will be happier and happier.

Eight States have now agreed to the proposed new Constitution; there remain five who have not yet discussed it; their appointed times of meeting not being yet arrived. Two are to meet this month, the rest later. One more agreeing, it will be carried into execution. Probably some will not agree at present, but time may bring them in; so that we have little doubt of its becoming general, perhaps with some corrections. As to your friend's taking a share in the management of it, his age and infirmities render him unfit for the business, as the business would be for him. After the expiration of his presidentship, which will now be in a few months, he is *determined* to engage no more in public affairs, even if required; but his countrymen will be too reasonable to require it. You are not so considerate; you are a hard task-master. You insist on his writing *his life*, already a long work, and at the same time would have him continually employed in augmenting the subject, while the time shortens in which the work is to be executed. General Washington is the man that all our eyes are fixed on for *President*, and what little influence I may have is devoted to him.

I am, etc.,

B. FRANKLIN.

MDVIII

TO M. DUPONT DE NEMOURS

PHILADELPHIA, 9 June, 1788.

SIR:—I have received your favor of December 31st, with the extract of a letter, which you wish to have translated and published here. But seven States having, before it arrived, ratified the new Constitution, and others being daily expected to do the same, after the fullest discussion in convention, and in all the public papers, till everybody was tired of the argument, it seemed too late to propose delay, and especially the delay that must be occasioned by a revision and correction of all the separate constitutions. For it would take at least a year to convince thirteen States that the constitutions they have practised ever since the Revolution, without observing any imperfections in them so great as to be worth the trouble of amendment, are nevertheless so ill formed as to be unfit for continuation, or to be parts of a federal government. And, when they should be so convinced, it would probably take some years more to make the corrections.

An eighth State has since acceded, and when a ninth is added, which is now daily expected, the Constitution will be carried into execution. It is probable, however, that at the first meeting of the new Congress various amendments will be proposed and discussed, when I hope your *Ouvrage sur les Principes et le Bien des Républiques en Générale, etc., etc,* may be ready to put into their hands; and such a work from your hand I am confident, though it may

not be entirely followed, will afford useful hints, and produce advantages of importance.

But we must not expect that a new government may be formed, as a game of chess may be played by a skilful hand, without a fault. The players of our game are so many, their ideas so different, their prejudices so strong and so various, and their particular interests, independent of the general, seeming so opposite, that not a move can be made that is not contested; the numerous objections confound the understanding; the wisest must agree to some unreasonable things, that reasonable ones of more consequence may be obtained; and thus chance has its share in many of the determinations, so that the play is more like *tric-trac* with a box of dice.

We are much pleased with the disposition of your government to favor our commerce, manifested in the late *réglement*. You appear to be possessed of a *truth*, which few governments are possessed of, that A must take some of B's produce, otherwise B will not be able to pay for what he would take of A. But there is one thing wanting to facilitate and augment our intercourse. It is a dictionary, explaining the names of different articles of manufacture in the two languages. When I was in Paris, I received a large order for a great variety of goods, particularly of the kind called hard wares—that is, wares of iron and steel; and when I showed the invoice to your manufacturers, they did not understand what kind of goods or instruments were meant by the names; nor could any English and French dictionary be found to explain them. So I sent to England for one of each

sort, which might serve both as explanation and as a model, the latter being of importance likewise, since people are prejudiced in favor of *forms* they have been used to, though perhaps not the best. They cost me twenty-five guineas, but were lost by the way, and, the peace coming on, the scheme dropped. It would, however, as I imagine, be well worth reviving, for our merchants say we will send to England for such goods as we want, because there they understand our orders, and can execute them precisely. With great and sincere esteem, I am, etc.,

B. FRANKLIN.

MDIX

FROM M. DE CONDORCET

PARIS, 8 July, 1788.

MY DEAR FRIEND:—I beg you to assure the Philosophical Society of Philadelphia of my gratitude for the honor which it has done me in electing me a member, and to present at the same time my thanks for the volume it has been kind enough to send me.

I have seen your new Federal Constitution, and the speech pronounced by you on that occasion. If it was necessary to finish it at once, if it was impossible to obtain any thing better, we must regard it as among the necessary evils, and hope that the opposition will be strong enough to require a few years hence a new convention. I see with pain that the aristocratic spirit seeks to introduce itself among

you in spite of so many wise precautions. At this moment it is throwing every thing into confusion here. Priests, magistrates, nobles, all unite against the poor citizens, who are of a different character. This league, so numerous in itself, has increased its strength by clamors against despotism. It is true, that it has taken the very moment when the king is acknowledging the rights of the nation, and promising to restore them; but the word is a hateful one, and in this country words are more than things.

I hope, however, that we shall get through, and that we shall have neither civil war nor bankruptcy in spite of all that our pretended patriots are saying and doing to lead us to both. Adieu, my dear friend; may you long enjoy your glory, but let it not make you forget the friends and the admirers whom you have left on the other side of the ocean. I am, etc.,

CONDORCET.

MDX

FROM THE DUKE DE LA ROCHEFOUCAULD

VARENNES, 12 July, 1788.

MY DEAR FRIEND:—I have heard from you indirectly through M. Le Veillard and the Abbé de la Roche more recently than by the letter which you were kind enough to write to me some time since. I learn from the former gentleman that we may soon expect the Memoirs of your life, which you promised him so long ago. What a precious monument this

memoir must be, written as it is by a true philosopher, whose genius has thrown light upon physical and political science; has taught us what lightning is, and how we may avoid it; what liberty is, and how we may acquire and preserve it; and who, uniting to rich intellectual gifts the kindest social feelings, has shown that he knows the value of friendship, and how compatible it is with sentiments of respect and veneration; a philosopher, too, who can judge himself with the same impartiality with which he would judge others. It will be a gift most dear to your friends, who will always pray that the last chapter of a life so valuable to humanity may have the longest possible extent.

We see with pleasure that your infirmities, though they do not leave you, still do not increase; and since they have allowed you for the last three years to labor in public affairs, we hope that they will now allow you to enjoy for a long period the repose and tranquillity which should close so great a career.

Eight States, then, have accepted the new Federal Constitution. Virginia is to be the ninth, so that it will presently go into operation, with a few modifications made upon the original plan adopted by the convention. There is one point on which I have heard no objections, which yet seems to me liable to a great many. I mean the extent of the power granted to the President, and the possibility of his occupying the place for an indefinite period. I love to believe that Washington, your worthy companion in the great American Revolution, will give to the world the example of a man who has willingly set

bounds to his own power; that when placed by his fellow-citizens in the highest office, he will point out to them the evils of too blind a confidence, and directing it to a noble end, he will provide proper restraints upon his own power and that of his successors less worthy than himself.

While you are busy in these great matters, France, whom you left talking zealously of liberty for other nations, begins to think that a small portion of this same liberty would be a very good thing for herself. Good works for the last thirty years, and your good example for the last fourteen, have enlightened us much; while our ministers, sometimes despotic and sometimes rapacious, have, by their attacks upon personal liberty or property, led men to the examination of great principles, an ignorance of which, sometimes real and sometimes conventional, left us in a state of calm which was by no means happiness, though frivolous, unenlightened, and stupid people, who are the largest class, thought it was.

The excess of the evil awakened us at last. M. de Calonne made known the disastrous state of the finances; his successors employed violent means; the classes which had been the zealous supporters of the royal authority, and often the passive or the ready instruments of ministerial despotism, for which, when they opposed it, they only substituted their own, which was still worse,—these classes found their only means of resistance consisted in calling public opinion to their aid. They have made an appeal to the nation, and the States-General are demanded with one voice from one extremity of France

to the other. The ministers, instead of skilfully yielding to this call, have shown a repugnance, and defer announcing their convocation, pretending that it is difficult to settle the forms, and that before the assembly can be called, time should be given for the public mind to grow calm. This last reason is altogether futile, for the more repugnance they show, and the stronger their desire to avoid granting the general wish, the more it is to be feared that the exasperation will increase.

The first reason, however, is not without foundation. It is true that the form of our States-General, which has undergone several variations, is very nearly determined by the different meetings which have taken place from 1483 to 1624; but their constitution is a bad one. The distinction into three orders, of which the first, the *Clergy*, ought not to be one; of which the second, the *Nobility*, is a constitutional evil, and enjoys, with the first, privileges which are burdensome to the nation; of which the third, the *Third Estate*, which ought to be the only one, and should comprehend all holders of property, is still in a great measure composed of privileged persons. I repeat, this distinction into three orders is a great obstacle to the public good by the diversity of interests, which may render this assembly a system of three bodies inimicable to each other, and no one of them truly friends to the nation.

If our well-intentioned ministers had taken up the idea of convoking a National Assembly, they might have reformed this evil, and given us a form of representation founded upon principles of justice and good

policy; but now that they call it in spite of themselves, they cannot help following the old form; and it is from an assembly, the composition of which is so exceptionable, that we are to expect a constitution. The light which has lately been shed upon the science of political economy, is our only ground of hope and consolation; and perhaps it will be sufficient to triumph over ministers, orders, and political bodies, over their passions and their prejudices. Posterity must judge of this; but I much fear that our first steps in the career of liberty will not be guided by that sound reason which alone can lead us promptly and permanently to happiness.

You Americans were in a far more favorable position for the establishment of a good constitution. You had none of those distinctions of birth and place, with which superstition and the feudal system have cursed old Europe. It was partly to avoid the evil influence of these prejudices, that your forefathers left their country, and sought a retreat in the forests of America, which they soon converted into fertile fields. They had imbibed, with the milk of their British mothers, the love and the principles of liberty, which, sometimes forgotten by that nation, have never been extinct among them; and these principles and this love had taken deep root in the hearts of your countrymen. When the ministers and Parliament of England attempted to enslave you, they were resisted with an energy which they had never expected; and, when you had acquired a *rank among nations*, you took, for the basis of your government and of your laws, personal

liberty, liberty of property and consequently of trade, and religious liberty. You allowed men to enjoy all the rights, which they hold from nature, and of which everywhere else either legislators or circumstances have more or less deprived them.

But the pleasure of conversing with you has carried me beyond the proper limits of a letter. If I did not know your indulgence, I should ask your pardon; but your friendship and the interest of the subject make me feel this to be unnecessary. Give your distant blessing to a nation which, at least, has the merit of appreciating your worth, and which, by the enlightened men it has produced, is worthy that you should take an interest in its fate, though it has often been the last to profit by the lessons which it has given to others.

I shall close my letter by offering you, on the part of the author and on mine, a dissertation on *Nyctalopia*, a disease endemic in the neighborhood of La Rocheguyon. You will find there the names of M. de Condorcet and the Abbé Rochon, who desire to add their affectionate compliments to those of all my family. Remember me to yours, and ever believe in the constant regard and affection of the

DUKE DE LA ROCHEFOUCAULD.

MDXI

TO MESSRS. BENJ. CHAMBERS, AND THE OTHER GENTLEMEN OF CHAMBERSBURGH

PHILADELPHIA, 20 September, 1788.

GENTLEMEN:—I received the letter you did me the honor of writing to me, respecting what was supposed a new invention, the blowing of furnaces by a fall of water. When Mr. Zantzinger delivered me your letter, I told him that I had several books in my library which described the same contrivance, and I have since shown them to him. They are the *French Encyclopedia or Dictionary of Arts and Sciences;* Swedenborg's Latin treatise of iron works; and the French work *Des Arts et des Métiers*, in the article of forges. Those descriptions are all accompanied with figures in copper plate, which demonstrate the invention to be the same precisely in all its essential parts; and in the accounts of it, it is said to have been first practised in Italy about one hundred years since; whence it was brought into France, where it is now much used; thence into Sweden and Germany: and I remember to have been informed by a Spaniard who was here forty years ago, and gave me a drawing of it, that it was practised in some parts of Mexico, in their furnaces for smelting their silver ore. This being the case, you see, gentlemen, that Mr. McClintock cannot properly be recommended to the assembly as the discoverer of something new. It is, however, not an uncommon thing for ingenious men in different ages, as well as in different countries, to hit upon the same contrivance

without knowing or having heard what has been done by others; and Mr. McClintock has at least the merit of having introduced the knowledge of this useful invention into this part of America, and of demonstrating by his own example its practicability.

I am, gentlemen, with great regard, your most obedient and most humble servant,

B. FRANKLIN.

MDXII

FROM CHARLOTTE FILANGIERI

NAPLES, 27 September, 1788.

SIR:—Attribute this long delay to my grief, and sympathize with me in my affliction. The Chevalier Gaetano Filangieri, my husband and my friend, is no more. He died on the 21st of July, in the flower of his age, the victim of a cruel disease, and with him my happiness has gone. He has left three children, with no other patrimony than the memory of his virtues and his reputation. If the letter which you wrote to him on the 14th of October, 1787, had reached him before the 1st of July, the day on which the disease attacked him, he would not have failed to answer it, and to send you the copies of his work on legislation which you had requested. I shall myself perform what would have been his wish, and you will receive, through the channel which you pointed out to him, all that you desire. The little that remains of his immortal work will shortly be printed, and I shall deem it a duty to send it to you as soon

as it comes from the press. I shall also have the melancholy pleasure of sending you, at the same time, the history of his life, and a selection from the best of his writings.

Accept, sir, the assurance of the high consideration and the sincere respect so fully your due, with which I have the honor to be, etc.,

CHARLOTTE FILANGIERI.[1]

MDXIII

TO THE DUKE DE LA ROCHEFOUCAULD

PHILADELPHIA, 22 October, 1788.

—— Our public affairs begin to wear a more quiet aspect. The disputes about the faults of the new Constitution are subsided. The first Congress will probably mend the principal ones, and future Congresses the rest. That which you mentioned did not pass unnoticed in the convention. Many, if I remember right, were for making the President incapable of being chosen after the first four years; but the majority were for leaving the electors free to choose whom they pleased; and it was alleged that such incapacity might tend to make the President less attentive to the duties of his office, and to the interests of the people, than he would be if a second choice

[1] Filangieri died at the age of thirty-six. His great work was left unfinished; but the deficiency has been in some degree supplied by Benjamin Constant, who added to the Paris edition of 1822 a volume entitled *Commentaire sur l'Ouvrage de Filangieri*. See note to letter to Filangieri, January 11, 1783.—EDITOR.

depended on their good opinion of him. We are making *experiments* in politics; what knowledge we shall gain by them will be more certain, though perhaps we may hazard too much in *that* mode of acquiring it.

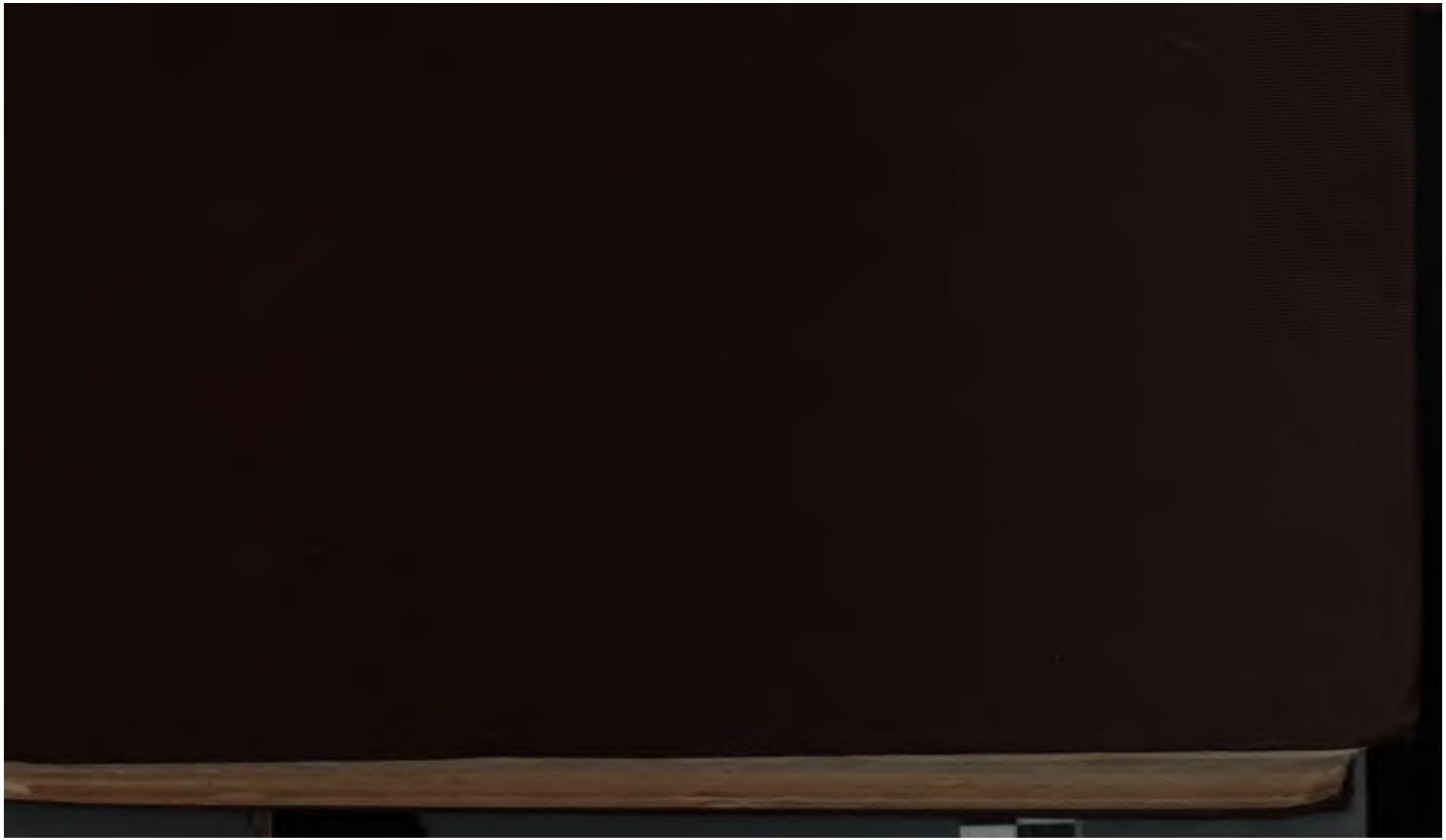
Having now finished my turn of being President, and promising myself to engage no more in public business, I hope to enjoy the small remains of life that are allowed me, in the repose I have so long wished for. I purpose to employ it in completing the personal history you mention.[1] It is now brought down to my fiftieth year. What is to follow will be of more important transactions; but it seems to me what is done will be of more general use to young readers, exemplifying strongly the effects of *prudent* and *imprudent conduct* in the commencement of a life of business.

B. FRANKLIN.

MDXIV

TO MADAME LAVOISIER

PHILADELPHIA, 23 October, 1788.

I have a long time been disabled from writing to my dear friend, by a severe fit of the gout, or I should sooner have returned my thanks for her very kind present of the portrait, which she has herself done me the honor to make of me. It is allowed by those who have seen it to have great merit as a picture in every respect; but what particularly en-

[1] The memoirs of his life.